# **DVP-CX777ES**

### **SERVICE MANUAL**

Ver 1.1 2004.09

US Model Canadian Model





 $E {\tt NERGY} \, S {\tt TAR}^{\circledR} \, {\tt is} \, {\tt a} \, {\tt U.S.} \, {\tt registered} \, {\tt mark}.$ As an ENERGY STAR® Partner, Sony Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Model Name Using Similar Mechanism	NEW
CD/DVD Mechanism Type	CDM62-DVBU26
Base Unit Name	DVBU26
Optical Pick-up Name	KHM-290AAA

#### **SPECIFICATIONS**

#### System

Laser: Semiconductor laser  $\lambda = 780 \text{ nm for CD}$  $\lambda = 650 \text{ nm for SA-CD}$  and DVD Emission duration: continuous Signal format system: NTSC

#### **Audio characteristics**

Frequency response: DVD VIDEO (PCM 96 kHz): 2 Hz to 44 kHz (44 kHz: -2 dB ±1 dB), Super Audio CD: 2 Hz to 100 kHz (50 kHz: -3 dB ±1 dB), CD: 2 Hz to 20 kHz (±0.5 dB)

Signal-to-noise ratio (S/N ratio): 115 dB (LINE OUT AUDIO L/R 1/2 jacks only) Harmonic distortion: 0.003 %

Dynamic range: DVD VIDEO/Super Audio CD: 103 dB, CD: 99 dB

Wow and flutter: Less than detected value (±0.001% W PEAK)

#### **Outputs**

(Jack name: Jack type/Output level/Load impedance)

LINE OUT AUDIO L/R 1/2: Phono jack/ 2 Vrms/10 kilohms

DIGITAL OUT (OPTICAL): Optical output jack/-18 dBm (wave length: 660 nm)

DIGITAL OUT (COAXIAL): Phono jack/ 0.5 Vp-p/75 ohms

5.1CH OUTPUT: Phono jack/2 Vrms/ 10 kilohms

#### COMPONENT VIDEO OUT (Y, PB/CB.

Pr/Cr): Phono jack/Y: 1.0 Vp-p/P<sub>B</sub>/C<sub>B</sub>, P<sub>R</sub>/C<sub>R</sub>: interlace\*=0.648 Vp-p, progressive or interlace\*\*=0.7 Vp-p/ 75 ohms

BLACK LEVEL is ON

\*\* BLACK LEVEL is OFF

LINE OUT VIDEO 1/2: Phono jack/ 1.0 Vp-p/75 ohms

S VIDEO OUPUT 1/2: 4-pin mini DIN/ Y: 1.0 Vp-p/C: 0.286 Vp-p /75 ohms S-LINK (CONTROL S IN): Mini jack

General

Power requirements: 120 V AC, 60 Hz Power consumption: 24 W

**Dimensions (approx.):**  $430 \times 189 \times 545 \text{ mm}$  $(17 \times 7^{1/2} \times 21^{1/2} \text{ in.})$  (width/height/ depth) incl. projecting parts

**Mass (approx.):** 10 kg (22 lb 1 oz) Operating temperature: 5 °C to 35 °C (41 °F to 95 °F)

Operating humidity: 25 % to 80 %

#### Supplied accessories

• Audio/video cord (pinplug × 3 ← pinplug  $\times$  3) (1)

• Remote commander (remote) (1)

• Size AA (R6) batteries (2)

Specifications and design are subject to change without notice.

CD/DVD PLAYER

9-961-043-02 **Sony Corporation** 

2004105-1 **Audio Group** 

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#### **SELF DIAGNOSIS FUNCTION**

### **Self-diagnosis Function**

(When letters/numbers appear in the display)

When the self-diagnosis function is activated to prevent the player from malfunctioning, a five-character service number (e.g., C 13 50) with a combination of a letter and four digits appears on the screen and the front panel display. In this case, check the following table



First three characters of the service number	Cause and/or corrective action
C 13	The disc is dirty.  → Clean the disc with a soft cloth.
C 31	The disc is not inserted correctly.  → Re-insert the disc correctly.
C 32	The front cover automatically opens and the player enters standby mode.  → Check that there is nothing wrong inside the rotary table, such as a fallen disc. After you have checked the inside of the rotary table and resolved any possible problems, press ▷.
E XX (xx is a number)	To prevent a malfunction, the player has performed the self-diagnosis function.  → Contact your nearest Sony dealer or local authorized Sony service facility and give the 5-character service number. Example: E 61 10

**Note:** Refer to the "4. TEST MODE" (page 23) for another self-diagnosis function.

#### Notes on chip component replacement

- · Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

#### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

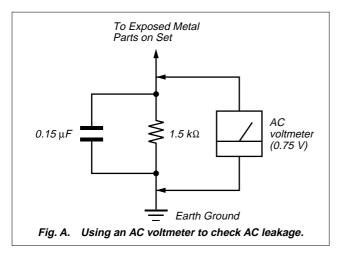
#### **SAFETY CHECK-OUT**

After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

#### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



#### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

#### **UNLEADED SOLDER**

Boards requiring use of unleaded solder are printed with the leadfree mark (LF) indicating the solder contains no lead.

(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

#### 🛂 : LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
- Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
- Soldering irons using a temperature regulator should be set to about 350  $^{\circ}\mathrm{C}.$

Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!

- Strong viscosity
  - Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder

It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

#### **SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

#### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE A SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## This Player Can Play the Following Discs

Format of discs	5	
DVD VIDEO	DVD VIDEO	
DVD-RW	<b>DVD</b>	
Super Audio CD	SUPER AUDIO CD	
VIDEO CD	CIGITAL VIDEO	
Music CD	COMPACT DIGITAL AUDIO	

"DVD VIDEO" and "DVD-RW" are trademarks.

#### Region code

Your player has a region code printed on the back of the unit and will only play DVD VIDEOs (playback only) labeled with identical region codes. This system is used to protect copyrights.

DVD VIDEOs labeled will also play on this player.

If you try to play any other DVD VIDEO, the message "Playback prohibited by area limitations." will appear on the TV screen. Depending on the DVD VIDEO, no region code indication may be labeled even though playing the DVD VIDEO is prohibited by area restrictions.



### Example of discs that the player cannot play

The player cannot play the following discs:

- All CD-ROMs (including PHOTO CDs)/ CD-Rs/CD-RWs other than those recorded in the following formats:
- -music CD format
- -video CD format
- -MP3 format that conforms to ISO9660\* Level 1/Level 2, or its extended format, Ioliet
- Data part of CD-Extras
- DVD-ROMs
- DVD Audios
- \* A logical format of files and folders on CD-ROMs defined by ISO (International Standards Organization).

Also, the player cannot play the following discs:

- A DVD VIDEO with a different region code.
- A disc recorded in a color system other than NTSC, such as PAL or SECAM (this player conforms to the NTSC color system).
- A disc that has a non-standard shape (e.g., card, heart).
- · A disc with paper or stickers on it.
- A disc that has the adhesive of cellophane tape or a sticker still left on it.

#### Notes

 Note about DVD-RWs/DVD-Rs, DVD+RWs/ DVD+Rs, or CD-Rs/CD-RWs.

Some DVD-RWs/DVD-Rs, DVD+RWs/DVD-Rs, or CD-Rs/CD-RWs cannot be played on this player due to the recording quality or physical condition of the disc, or the characteristics of the recording device and authoring software. Also, images in DVD-RWs with CPRM\* protection may not be played if they contain a copy protection signal. "Copyright lock" appears on the screen. For more information, see the operating instructions for the recording device.

Note that discs created in the Packet Write format cannot be played.

\* CPRM (Content Protection for Recordable Media) is a coding technology that protects copyright for images.

• Music discs encoded with copyright protection technologies

This product is designed to playback discs that conform to the Compact Disc (CD) standard. Recently, various music discs encoded with copyright protection technologies are marketed by some record companies. Please be aware that among those discs, there are some that do not conform to the CD standard and may not be playable by this product.

### Note on playback operations of DVDs and VIDEO CDs

Some playback operations of DVDs and VIDEO CDs may be intentionally set by software producers. Since this player plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also, refer to the instructions supplied with the DVDs or VIDEO CDs.

#### Copyrights

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

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### SECTION 1 SERVICING NOTES

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

#### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

#### NOTE OF REPLACING THE MB BOARD

When replacing the MB board, since the adjustment value is not set up correctly, "Drive Auto Adjustment" can't be performed. In this case, initialize Memory in the following procedures.

#### **Procedure:**

- 1. Set the test mode. (See page 23)
- Press the 2 key of the remote commander, and set the "DRIVE MANUAL OPERATION". (See page 29)
- 3. Press the 6 key of the remote commander, and set the "2-6, Memory Check". (See page 32)
- 4. Press the CLEAR key of the remote commander, and initialize Memory.

#### CHECK OF POWER BOARD WITH THE POWER ON

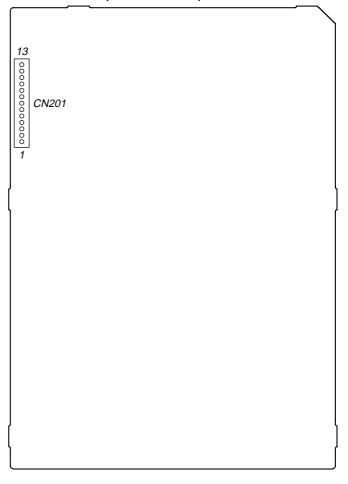
It is possible to analyze the defect with only POWER board power ON.

#### **Procedure:**

- 1. Set to power OFF state.
- 2. Remove the connector from CN201 on the POWER board.
- 3. Short between CN201 pin ① (P-CONT) and CN201 pin ① (EVER+3.3V) on the POWER board.
- 4. Turn the power ON.
- Confirm that the voltage value of CN201 each pin on the POWER board satisfy following value.

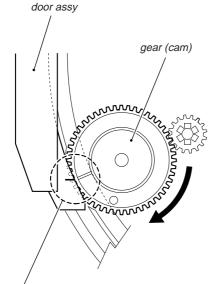
CN201 Pin	Voltage Value
pin ② (EVER-11V)	-11V
pin ③ (SW-11V)	-11V
pin 6, 7 (SW+11V)	+11V
pin (8) (SW+3.3V)	+3.3V
pin ① (EVER+3.3V)	+3.3V
pin <b>②</b> (SW+5V)	+5V
pin (3) (EVER+5V)	+5V

#### - POWER Board (Conductor Side) -

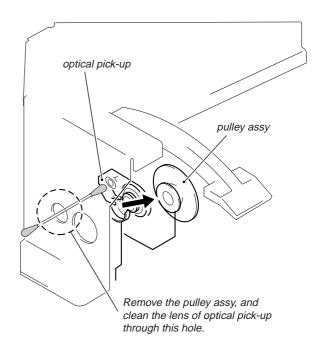


### ALIGNMENT OF GEAR (CAM) PHASE WITH DOOR ASSY

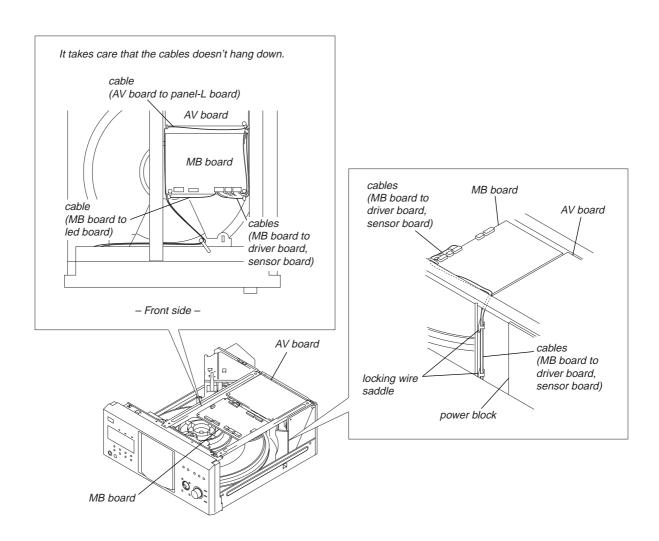
#### **CLEANING OF OPTICAL PICK-UP**

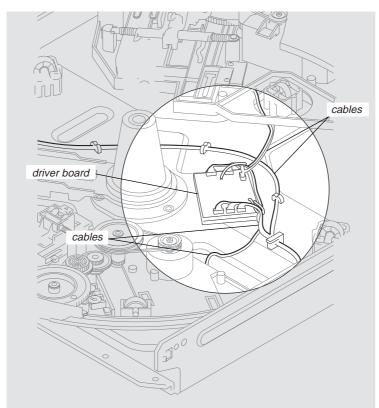


Align a slit of door assy with a marking on the bottom land of gear tooth when the gear is rotated fully in arrow direction, as shown.



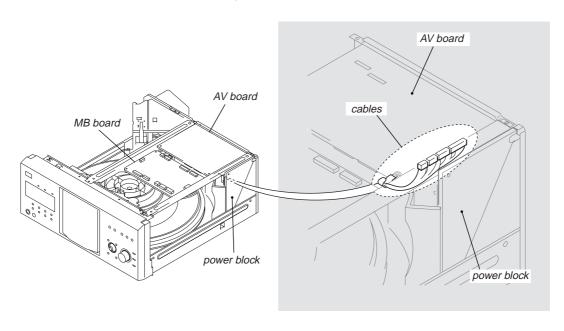
#### NOTE FOR INSTALLATION



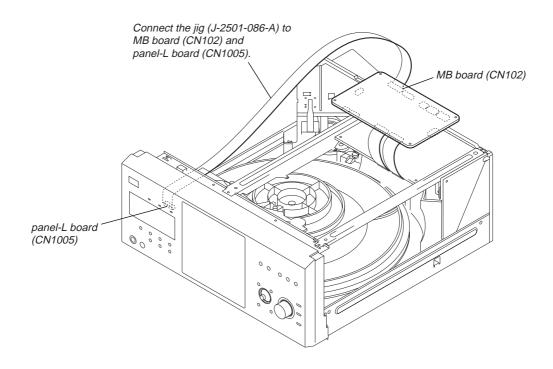


When installing the cables, it is made to make it crawl in a chassis.

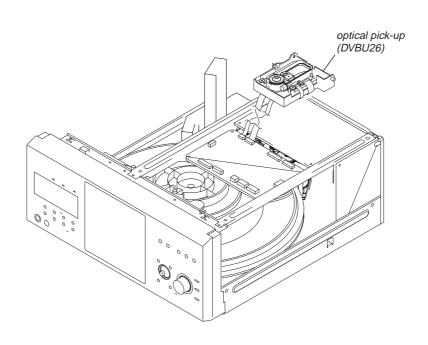
It is made to contact and for there not to be a power block and cables.



### SERVICE POSITION – MB board –



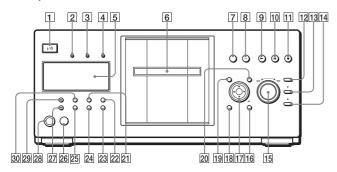
#### - Optical pick-up block -



#### **SECTION 2 GENERAL**

This section is extracted from instruction manual.

#### Front panel



- 1 1/ (on/standby) button
- 2 PROGRESSIVE indicator
  - -Lights up when the player outputs progressive signals
- 3 SACD (Super Audio CD) indicator Lights up when:
  - —playing a Super Audio CD.
- no disc is inserted.MULTI CHANNEL indicator
- Lights up when:
  - Playing a track or chapter that contains three or more audio signal channels.
  - no disc is inserted.
- 5 Front panel display
  6 Front cover
- OPEN/CLOSE button
- (play) button 10 II (pause) button
- 11 (stop) button
- +100 button
- 13 DISC CHANGE button/indicator

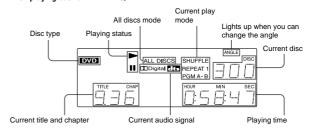
- 14 DIRECT SEARCH button/indicator
- I◀◀ –/▶▶I+/ENTER

(previous/next/enter) dial

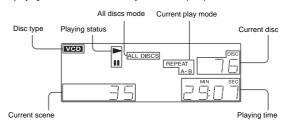
- RETURN button
- ←/**↑**/**→**/ENTER buttons
- DISPLAY button
- TOP MENU button
- MENU button
- VIDEO CONTROL button
- SURROUND button
- ONE/ALL DISCS button
- FOLDER button
- LOAD button
- (remote sensor)
- VIDEO OFF indicator
- KEYBOARD jack FL OFF button/indicator
- TIME/TEXT button

#### Front panel display

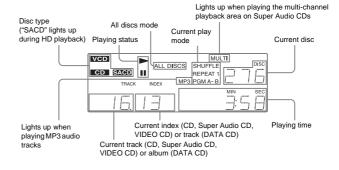
#### When playing back a DVD VIDEO/DVD-RW



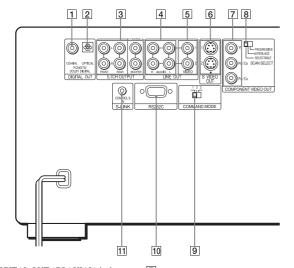
#### When playing back a VIDEO CD with Playback Control (PBC)



#### When playing back a CD, Super audio CD, DATA CD (MP3 audio), or VIDEO CD (without PBC)



#### Rear panel

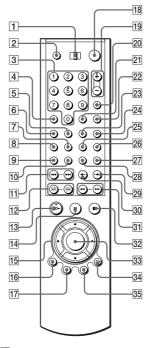


- 1 DIGITAL OUT (COAXIAL) jack 2 DIGITAL OUT (OPTICAL) jack
- 3 5.1CH OUTPUT jacks
  4 LINE OUT AUDIO L/R 1/2 jacks

\* This port is intended for future applications

- 5 LINE OUT VIDEO 1/2 jacks
- 6 S VIDEO OUT 1/2 jacks
- 7 COMPONENT VIDEO OUT (Y, PB/ CB, PR/CR) jacks
- COMPONENT VIDEO OUT/SCAN SELECT switch
- COMMAND MODE switch
- RS232C jack\*
- 11 S-LINK/CONTROL S IN jack

#### Remote



- 1 TV/DISC EXPLORER/DVD switch
- 2 OPEN/CLOSE button
- Number buttons
- The number 5 button has a tactile dot.\*
- 4 CLEAR button
  5 SUR (surround)
  6 VIDEO CONTI SUR (surround) button VIDEO CONTROL button

- 7 SUBTITLE button
- AUDIO button
- 9 PICTURE NAVI (picture navigation) button
- 10 REPEAT button
- 11 PREV/NEXT (previous/ next) buttons
- 12 **◄II**••/▶**II**► SEARCH/STEP buttons
- 13 >> PLAY button
- The ≥ button has a tactile dot.\* 14 II PAUSE button
- 15 ←/**↑**/**↓**/**→** buttons
- 16 DISPLAY/FILE button
- TOP MENU/EDIT button 18 1/ (on/standby) button
- 19 VOL (volume) +/- buttons
- The + button has a tactile dot.\*
  TV/VIDEO/DISC SKIP + button
- ENTER button
- 22 WIDE MODE/DISC SKIP button
- 23 FOLDER button
- 24 PICTURE MEMORY button
- 25 ANGLE button
- TIME/TEXT buttonSACD/CD (Super Audio CD/CD) button
- 28 SACD MULTI/2CH (Super Audio CD multi/2 channel) button
  - •→ INSTANT SEARCH button
- ←• INSTANT REPLAY button
- ◀▮ ◀◀/▶▶ ▮► SCAN/SLOW buttons
- 32 STOP button
- 33 ENTER button
- 34 RETURN button
- 35 MENU/SORT button
- \* Use the tactile dot as a reference when operating

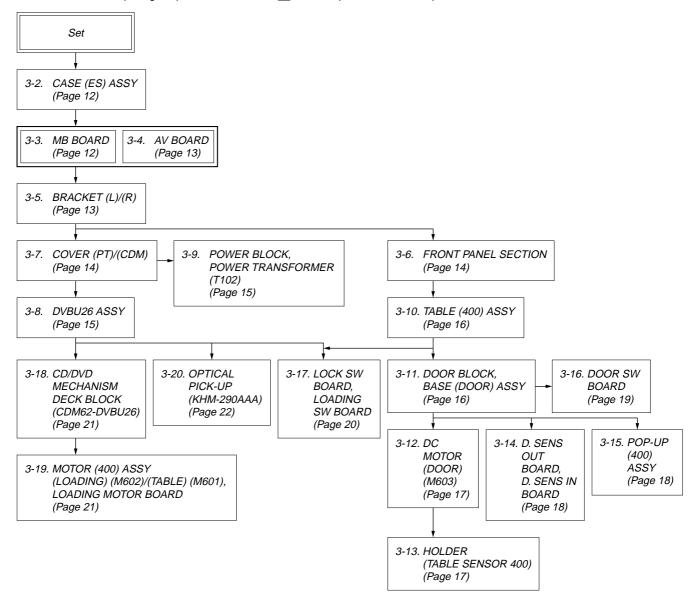
### SECTION 3 DISASSEMBLY

• This set can be disassembled in the order shown below.

#### 3-1. DISASSEMBLY FLOW

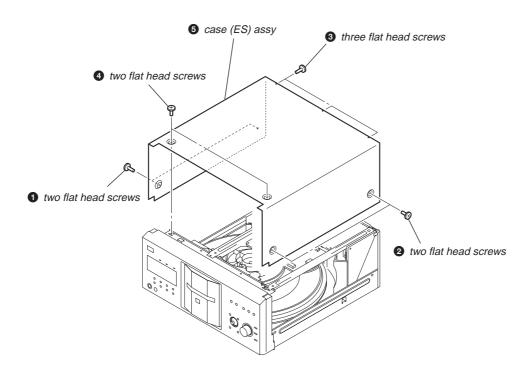
**Note 1:** The process described in  $\Box$  can be performed in any order.

**Note 2:** Without completing the process described in  $\square$ , the next process can not be performed.

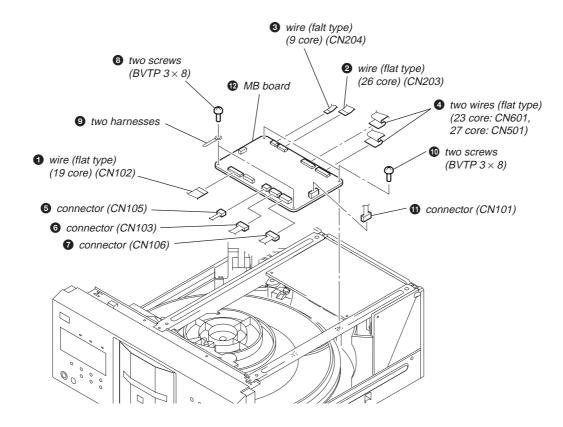


**Note:** Follow the disassembly procedure in the numerical order given.

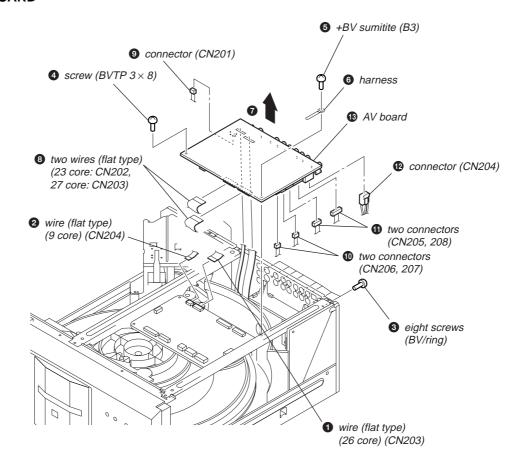
#### 3-2. CASE (ES) ASSY



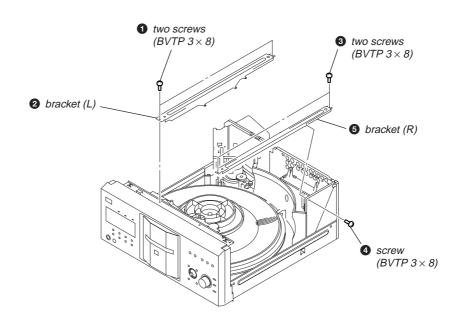
#### 3-3. MB BOARD



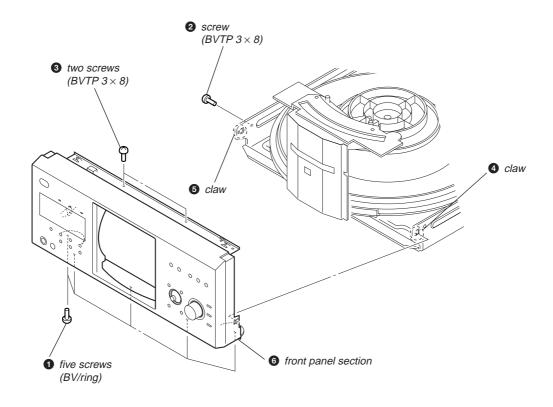
#### 3-4. AV BOARD



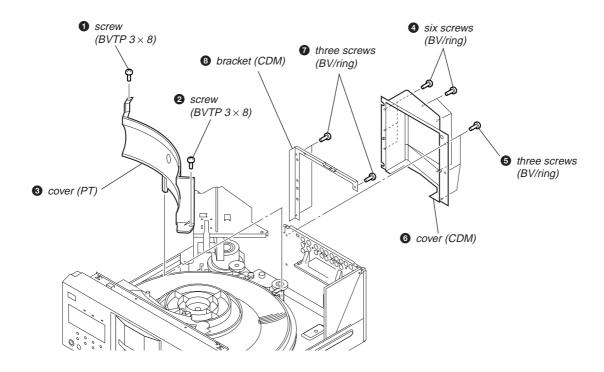
### 3-5. BRACKET (L)/(R)

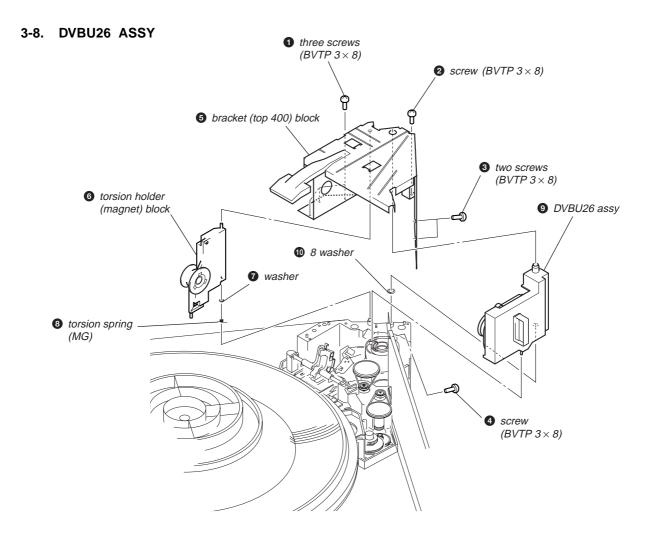


#### 3-6. FRONT PANEL SECTION

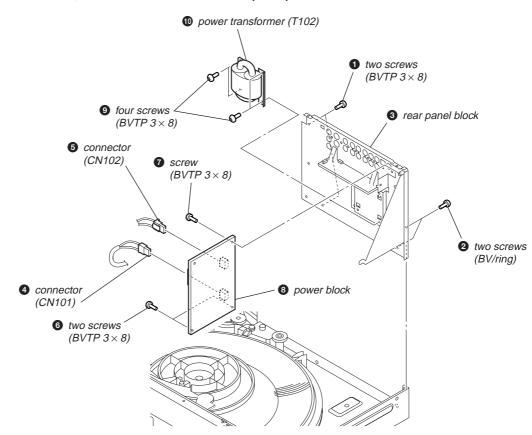


#### 3-7. COVER (PT)/(CDM)

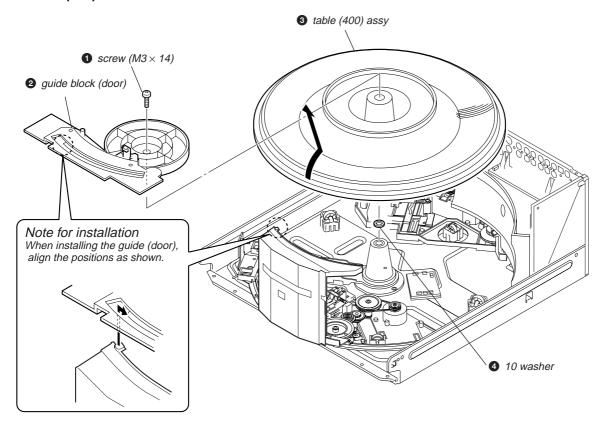




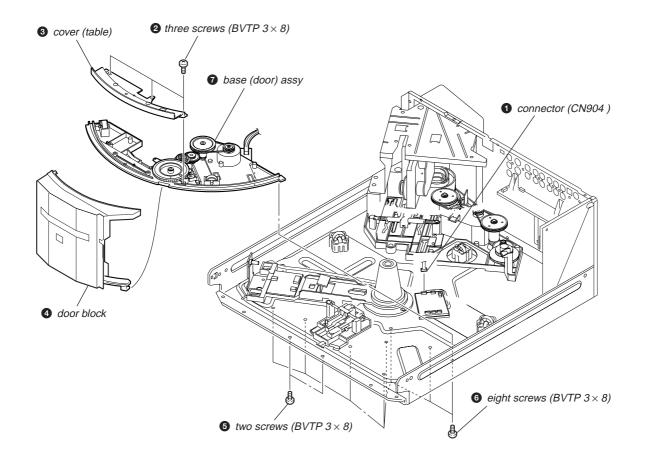
#### 3-9. POWER BLOCK, POWER TRANSFORMER (T102)



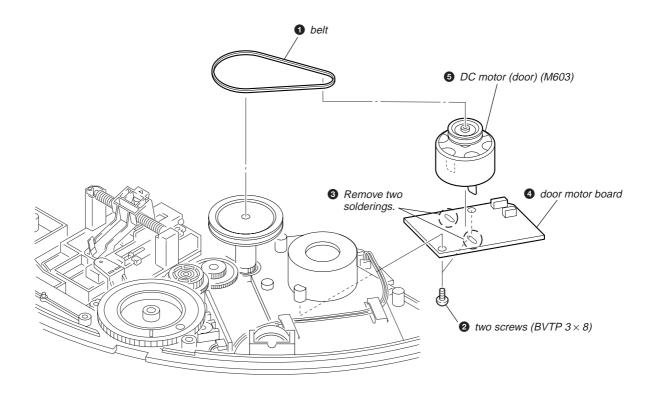
#### 3-10. TABLE (400) ASSY



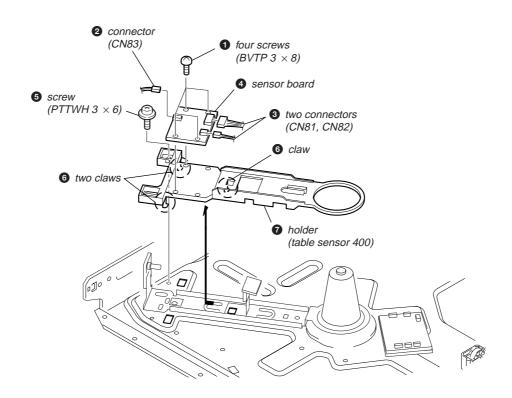
#### 3-11. DOOR BLOCK, BASE (DOOR) ASSY



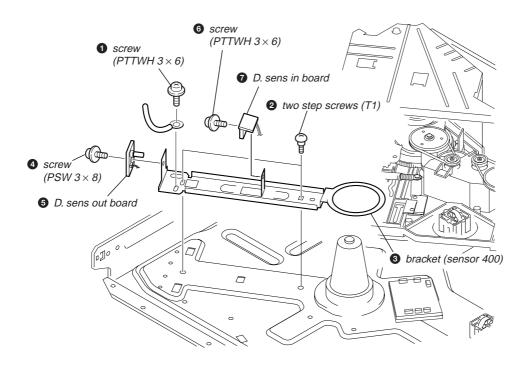
#### 3-12. DC MOTOR (DOOR) (M603)



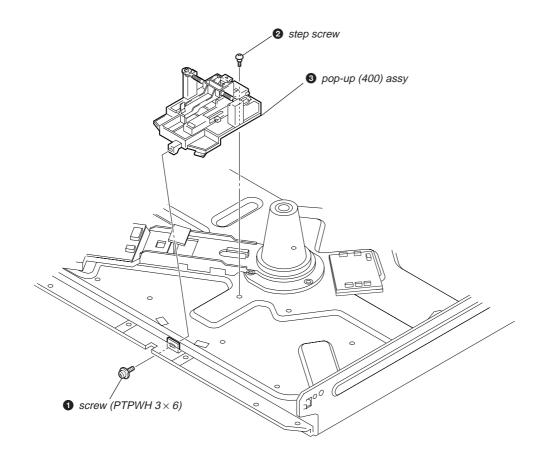
#### 3-13. HOLDER (TABLE SENSOR 400)



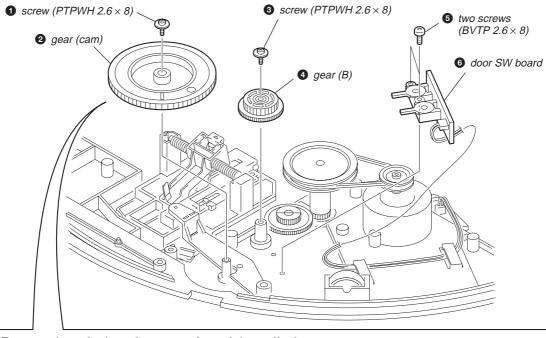
### 3-14. D. SENS OUT BOARD, D. SENS IN BOARD

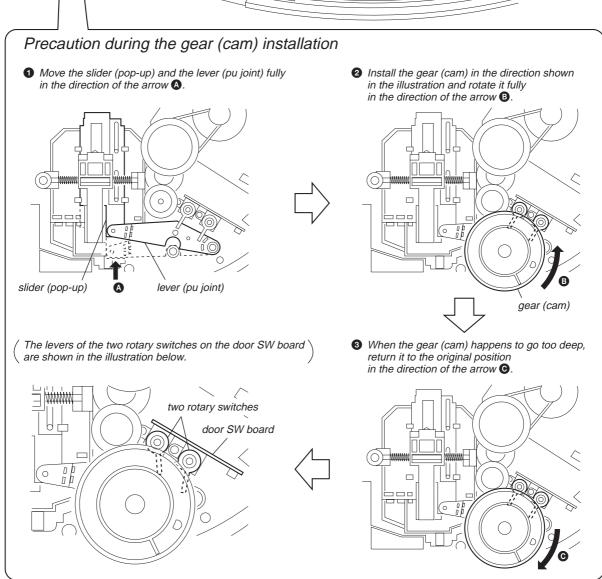


#### 3-15. POP-UP (400) ASSY

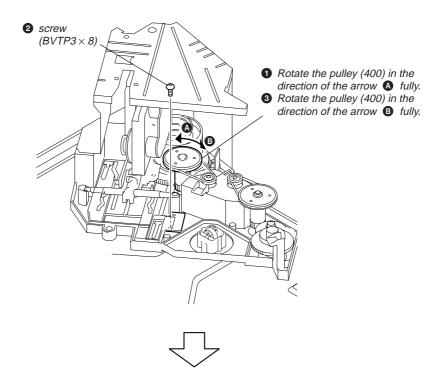


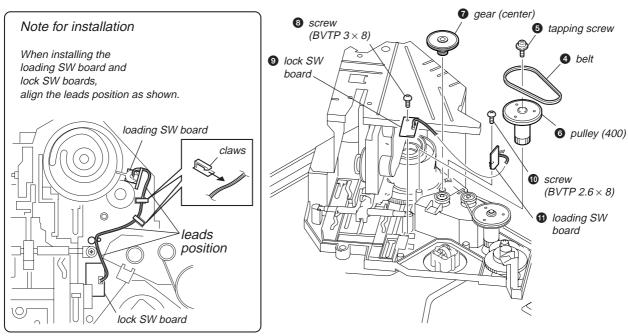
#### 3-16. DOOR SW BOARD



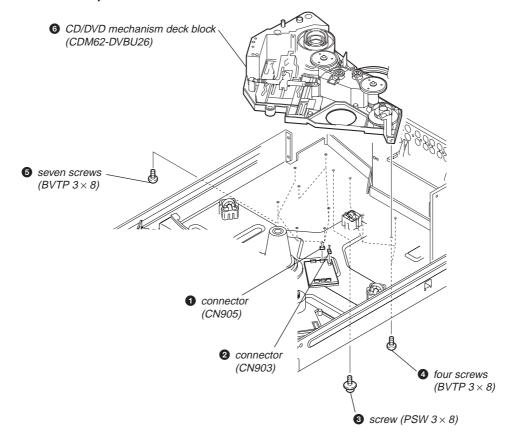


#### 3-17. LOCK SW BOARD, LOADING SW BOARD

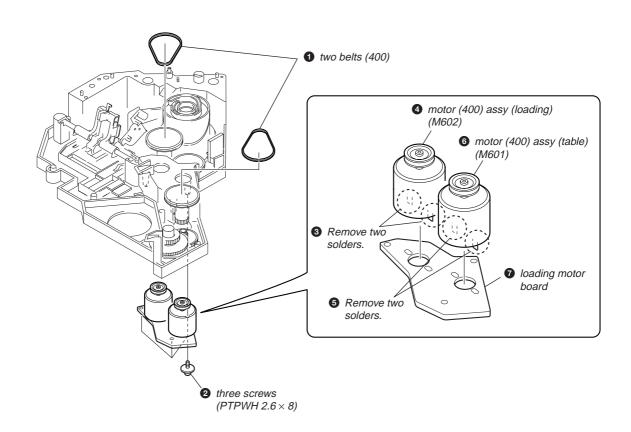




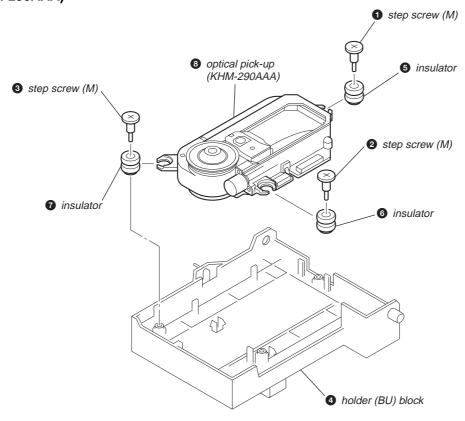
### 3-18. CD/DVD MECHANISM DECK BLOCK (CDM62-DVBU26)



#### 3-19. MOTOR (400) ASSY (LOADING) (M602)/(TABLE) (M601), LOADING MOTOR BOARD



### 3-20. OPTICAL PICK-UP (KHM-290AAA)



### SECTION 4 TEST MODE

#### 4-1. GENERAL DESCRIPTION

The Test Mode allows you to make diagnosis and adjustment easily using the remote commander and monitor TV. The instructions, diagnostic results, etc. are given on the on-screen display (OSD).

#### 4-2. STARTING TEST MODE

Press the TOP MENU, CLEAR, [I/C] keys on the remote commander in this order with the power of main unit in OFF status, and the Test Mode starts, then "DIAG START" will be displayed on the fluorescent display tube and the menu shown below will be displayed on the TV screen. At the bottom of menu screen, the model name and revision number are displayed. Last Off at the lower right of screen indicates the information code concerning the last power off. To execute each function, select the desired menu and press its number on the remote commander. To exit from the Test Mode, press the I/O key.

#### **Power Off Information Code List**

- 00: Primary Power Off
- 01: Power Off Request from SYSTEM CONTROL
- 02: Power Off by Emergency Power Off Command from SYS-TEM CONTROL

(if information is sent from SYSTEM CONTROL)

- 03: IF CON Judged that SYSTEM CONTROL is Faulty
- 04: Power Off from Diagnosis Mode of IF CON
- 05: Forced Power Off by the User
- 06: Power Off by Power Supply Voltage Monitor

#### 4-3. SYSCON DIAGNOSIS

The same contents as board detail check by serial interface can be checked from the remote commander. On the Test Mode Menu screen, press ① key on the remote commander, and the following check menu will be displayed.

#### 0. (Quit)

Quit the Syscon Diagnosis and return to the Test Mode Menu.

#### 1. (All items continuous check)

This menu checks all diagnostic items continuously. Normally, all items are checked successively one after another automatically unless an error is found, but at a certain item that requires judgment through a visual check to the result, the following screen is displayed for the key entry.

```
### Syscon Diagnosis ###

Diag All Check
No. 2 Version

2-3. ROM Check Sum
Check Sum = xxxx

Press NEXT Key to Continue
Press PREV key to Repeat
```

For the ROM Check, the check sum calculated by the Syscon is output, and therefore you must compare it with the specified value for confirmation.

Following the message, press \( \) key to go to the next item, or \( \) key to repeat the same check again.

To quit the diagnosis and return to the Check Menu screen, press or ENTER key. If an error occurred, the diagnosis is suspended and the error code is displayed as shown below.

### Syscon Diagnosis ###

3-2. EEPROM Check
Error 03 : EEPROM Write/Read N
Address : 00000001
Write Data: 2492
Read Data : 2490
Press NEXT Key to Continue
Press PREV key to Repeat
-

Press key to quit the diagnosis, or key to repeat the same item where an error occurred, or key to continue the check from the item next to faulty item.

\* In "All item continuous check", pressing stop or enter will not quit the diagnosis.

Selecting 2 and subsequent items call the submenu screen of each item. When "———" is displayed in the submenu, it means that the test is not supported in the model.

For example, if "5. Supply" is selected, the following submenu will be displayed.

### Syscon Diagnosis ###
Check Menu
No. 5 Supply

O. Quit
ARP Register Check
ARP to RAM Data Bus
ARP to RAM Address Bus
ARP RAM Check

#### 0. (Quit)

Quit the submenu and return to the main menu.

#### 1. (All submenu items continuous check.)

This menu checks 2 and subsequent items successively. At the item where visual check is required for judgment or an error occurred, the checking is suspended and the message is output for key entry. Normally, all items are checked successively one after another automatically unless an error is found.

Selecting 2 and subsequent items executes respective menus and outputs the results.

For the contents of each submenu, see "General Description of Checking Method" and "Check Items List".

### **General Description of Checking Method 2. Version**

#### (2-2) Revision

ROM revision number is displayed.

Error: Not detected.

The revision number defined in the source file is displayed with four digits.

#### (2-3) ROM Check Sum

Check sum is calculated.

Error: Not detected.

8-bit data are added up to the ROM address 0x000F0000 to 0x002EFFFF, and the result is displayed with 4-digit hexadecimal number. Error is not detected. Compare the result with the specified value.

#### (2-4) Model Type

Model code is displayed.

Error: Not detected.

The model code read from the EEPROM is displayed with 2-digit hexadecimal number.

#### (2-5) Region

Region code is displayed.

Error: Not detected.

The region code determined from the model code is displayed.

#### (2-6) M't Check

Mount resistance is checked.

Error 22: The region code does not accord.

Check whether the region code that is deduced from model resistance and destination resistance accords with the region code that is deduced from region resistance value.

#### 3. Peripheral

#### (3-2) EEPROM Check

Data write  $\rightarrow$  read, and accord check

Error 03: EEPROM write/read discord

0x9249, 0x2942 and 0x4294 are written to the address 0x00 to 0xFF of the EEPROM and then read for checking. Before writing, the data are saved, then after checking, they are written to restore the contents of EEPROM.

#### (3-3) Gate Array Check

Data write  $\rightarrow$  read, and accord check

Error 02: Gate Array write/read discord

Data of 0x00 to 0xFF is written sequentialy to the address 0xF and then read for checking.

#### (3-4) NAND FLASH Check

Data delete  $\rightarrow$  write  $\rightarrow$  read, and accord check

Error 04: delete error

Error 05: write error

Error 06: read data discord

Error 21: more than ten blocks are defective

Deleting, writing and checking read data are executed to the zeroth block of Flash memory.

If any detective block is found, the address is displayed. When more than ten blocks are defective, it is considered as an error.

#### (3-5) SACD Check

Device reset → internal organs RAM check.

Error 50: Write and read data discord.

#### (3-6) VENC Check

Data write → read, and accord check

Error 52: Write/read data discord

Error may occur due to defect of access with syscon.

(3-7) ———— Check no support.

#### (3-8) EX RAM Check

Test Data write → read, and accord check

Error 02: The external RAM used in the system control is checked.

#### 4. Servo

#### (4-2) Servo DSP Check

Data write → read, and accord check

Error 12: Read data discord

0x9249, 0x2942 and 0x4294 are written to the RAM address 0x602 of the Servo DSP and then read for checking.

(4-3) ———— Check no support.

#### (4-4) RF Amp (SSI) W/R Check

Data write → read, and accord check

Error 13: RF Amp register write, and read data discord Implement 8-bit shift operation of the 0x01 to the readable/writable register of the RF Amp. If once write data do not accord with read data, it is NG.

#### 5. Data Supply System

#### (5-2) ARP Register Check

Data write → read, and accord check Error 08: ARP register write, and read data discord Data 0x00 to 0xFF is written sequentially to the ARP TMAX register (address 0xC6) and then read for checking.

#### (5-3) ARP to RAM Data Bus

Data write → read, and accord check

Error 09: ARP ←→ RAM data bus error

Data 0x0001 to 0x8000 where one bit each is set to 1 are written to the address 0 of RAM (IC303) connected to the ARP (IC301) through the bus, then they are read and checked. In case of discord, written bit pattern and read data are displayed. If data where multiple bits are 1 are read, the bits concerned may touch each other. Further, if data where certain bit is always 1 or 0 regardless of written data, the line could be disconnected or shorted.

#### (5-4) ARP to RAM Address Bus

Data write → other address read discord check

Error 10: ARP ←→ RAM address bus error

Caution: Address and data display in case of an error is different from the display of other diagnosis (described later).

Before starting the test, all addresses of RAM (IC303) are cleared to 0x0000.

First, 0xA55A is written to the address 0x00000, and the address data are read and checked from addresses 0x00001 to 0x80000 while shifting 1 bit each. Next, the data at that address is cleared, and it is written to the address 0x00001, and read and checked in the same manner. This check is repeated up to the address 0x80000 while shifting the address data by 1 bit each.

If data other than 0 is read at the addresses except written address, an error is given because all addresses were already cleared to 0. In this check, the error display pattern is different from that of other diagnosis; read data, written address, and read address are displayed in this order. However, the message uses same template, and accordingly exchange Address and Data when reading. The following display, for example,

### Syscon Diagnosis ###

5-4. ARP to RAM Address Bus
Error 10: ARP - RAM Address B
Address : 0000A55A
Write Data : 00000000
Read Data : 00080000
Press NEXT Key to Continue
Press PREV key to Repeat
-

shows the data 0xA55A was read from address 0x00080000 though it was written to the address 0x00000000. This implies that these addresses are in the form of shadow. Also, if the read data is not 0xA55A, another error will be present.

#### (5-5) ARP RAM Check

Data write → read, and accord check

Error 11: ARP RAM read data discord

The program code data stored in ROM are copied to all areas of RAM (IC303) connected to the ARP (IC301) through the bus, then they are read and checked if they accord. If the detail check was selected initially, the data are written to all areas and read, then the same test is conducted once again with the data where all bits are inverted between 1 and 0. If discord is detected, faulty address, written data, and read data are displayed following the error code 11, and the test is suspended.

#### 6. AV Decoder

#### (6-2) 1935 RAM

Data write → read, and accord check

Error 14: AVD RAM read data discord

The program code data stored in ROM (IC106) are copied to all areas of RAM (IC404, 405) connected to the AVD (IC403) through the bus, then they are read and checked if they accord. Further, the same test is conducted once again with the data where all bits are inverted between 1 and 0. If discord is detected, faulty address, written data, and read data are displayed following the error code 14, and the test is suspended.

During the test, OSD display becomes blank as the OSD area is also checked.

#### (6-3) 1935 SP

ROM → AVD RAM → Video OUT

Error: Not detected.

The data including sub picture streams in ROM (IC106) are transferred to the RAM (IC404, 405) in AVD (IC403), and output as video signals from the AVD (IC403).

Though OSD display becomes blank, the output of video signals continues until the key is pressed.

#### 7. Video Output

#### (7-2) Color Bar

AVD color bar command write → Video OUT

Error: Not detected.

The command is transferred to the AVD, and the color bar signals are output from video terminals.

#### (7-3) Composite Out

AVD color bar command write  $\rightarrow$  Video (Composite, Y/C) OUT

Error: Not detected.

The command is transferred to the AVD, and the color bar signals are output from video terminals.

AVD color bar command write  $\rightarrow$  Video (Composite, Y/C) OUT

Error: Not detected.

The command is transferred to the AVD, and the color bar signals are output from video terminals.

They are output from all video terminals (Composite, Y/C, Component).

(7-5)Check no support.

#### (7-6) Component Out

AVD color bar command write  $\rightarrow$  Video (Component, Y/ C) OUT

Error: Not detected.

The command is transferred to the AVD, and the color bar signals are output from video terminals.

(7-7)Check no support.

#### 8. Audio Output

#### (8-2) ARP $\rightarrow$ 1935

Data flow from supply system DRAM to SDRAM of AV Decoder is tested.

Error 15: ARP → 1935 video NG

16: ARP → 1935 audio NG

#### (8-3) Audy

Register check of Audy (IC801) and SDRAM (IC802) check are performed. After above checks are performed, transit to the next test tone (8-4).

#### (8-4) Test Tone

Pink noise output

Error: Not detected.

In the models without DD output, the test tone is output from L and R of 2-channel only, and in the models with DD output, the test tone is output from L and R of 2-channel, and all channels of 5.1 output.

After turning on all outputs, each time the key is pressed, the output channel is switched for individual channel checking.

#### **Diagnosis Check Items List**

#### 2. Version Display

- (2-2) Revision
- (2-3) ROM Check Sum
- (2-4) Model Type
- (2-5) Region
- (2-6) M't Check

#### 3. Peripheral

- (3-2) EEPROM Check
- (3-3) Gate Array Check
- (3-4) NAND FLASH Check
- (3-5) SACD Check
- (3-6) VENC Check
- (Function not supported) (3-7) -
- (3-8) EX RAM Check

#### 4. Servo

- (4-2) Servo DSP Check
- (Function not supported)
- (4-4) RF Amp (SSI) W/R Check

#### 5. Data Supply System

- (5-2) ARP Register Check
- (5-3) ARP to RAM Data Bus
- (5-4) ARP to RAM Address Bus
- (5-5) ARP RAM Check

#### 6. AV Decoder

- (6-2) 1935 RAM
- (6-3) 1935 SP

#### 7. Video Output

- (7-2) Color Bar
- (7-3) Composite Out
- (7-4) Y/C Out
- (7-5) (Function not supported)
- (7-6) Component Out
- (Function not supported) (7-7) —

#### 8. Audio Output

- (8-2) ARP  $\rightarrow$  1935
- (8-3) Audy
- (8-4) Test Tone

#### **Error Codes List**

- 00: Error not detected
- 01: RAM write/read data discord
- 03: EEPROM NG
- 04: Flash memory clear error
- 05: Flash memory write error
- 06: Flash memory read data discord
- 08: ARP register read data discord
- 09: ARP ← → RAM data bus error
- 10: ARP ←→ RAM address bus error
- 11: ARP RAM read data discord
- 12: Servo DSP NG
- 13: RF Amp NG
- 14: 1935 SDRAM NG
- 15: ARP → 1935 video NG
- 16: ARP → 1935 audio NG
- 1A:System call error (Function not supported)
- 1B: System call error (Parameter error)
- 1C: System call error (Illegal ID number)
- 20: System call error (Time out)
- 22: Resistor installation error
- 50: SACD Decoder W/R NG
- 52: Video Encoder W/R NG
- 55: External RAM W/R NG
- 90: Error occurred
- 91: User verification NG
- 92: Diagnosis cancelled

#### 4-4. DRIVE AUTO ADJUSTMENT

```
DVD reference disc
Single Layer
HLX-503 (J-6090-069-A) (NTSC) OR
HLX-504 (J-6090-088-A) (NTSC)
Dual Layer
HLX-501 (J-6090-071-A) (NTSC) OR
HLX-505 (J-6090-089-A) (NTSC)
```

CD reference disc

YEDS-18 (3-702-101-01) OR PATD-012 (4-225-203-01)

On the Test Mode Menu screen, press 1 key on the remote commander, and the drive auto adjustment menu will be displayed.

## Drive Auto Adjustment ##

Adjustment Menu

0. ALL
1. DVD-SL
2. CD
3. DVD-DL
4. LCD

Exit: RETURN

Normally,  $\boxed{0}$  is selected to adjust DVD (single layer), CD, and DVD (dual layer) in this order. But, individual items can be adjusted for the case where adjustment is suspended due to an error. In this mode, the adjustment can be made easily through the operation following the message displayed on the screen. Which disc is currently adjusted is displayed on the fluorescent display tube.

#### 0. ALL

You will be asked if EEPROM data are initialized or not, and for this prompt, select ① and press the <code>ENTER</code> key. First, the servo setting data in EEPROM, Emergency History and Hour Meter are cleared to initialize. Then, [1] DVD-SL disc, [2] CD disc, and [3] DVD-DL disc are adjusted in this order. Because the changer model can accept multiple discs in advance of adjustment, adjustments can be continued by exchanging discs automatically whenever an adjustment is completed following the instruction on screen. You can exit the adjustment by pressing the button. In adjusting each disc, the mirror time is measured to check the disk type. In the auto adjustment, whether the disc type is correct is not checked unlike conventional models, and accordingly, take care not to insert a different type of disc.

Three kinds of discs can be set in advance. In this case, set discs in order to the displayed number with following the massage. Every time after adjusting a disc, the disc is replaced and adjustment is continued automatically.

Set Disc

Disc slot number 1: DVD-SL Disc slot number 2: CD Disc slot number 3: DVD-DL

#### 1. DVD Single Layer Disc

Select 1, insert DVD single layer disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM. The disc slot No. 1 is used in the changer type model. If there is no disc on the disc slot No. 1, the tray will be open to wait for closing. If there is a disc on the table, the adjustment starts immediately. If you put a disc prior to adjustment, confirm that the SL disc is set on the disc slot 1.

#### **DVD Single Layer Disc Adjustment Steps**

- 1. Sled Reset
- 2. Disc Check Memory SL
- 3. Set Disc Type SL
- 4. Spindle Start
- 5. Laser Diode ON
- 6. Focus Error Check
- 7. Focus ON 0 with PI Level measure
- 8. Auto Track Offset Adjust L0
- 9. Try Level Check
- 10. Tracking ON
- 11. CLVA ON
- 12. Sled ON
- 13. Auto Focus Balance Adjust
- 14. Auto Loop Filter Offset Adjust
- 15. Auto Focus Gain Adjust L0
- 16. Auto Focus Balance Adjust L0
- 17. EQ Boost Adjust
- 18. Auto Loop Filter Offset Adjust
- 19. Auto Track Gain Adjust
- 20. RF Level Measure
- 21. Jitter measure
- 22. Eep Copy Loop Filter Offset
- 23. All Servo Off

#### 2. CD Disc

Select 2, insert CD disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM. The disc slot No. 2 is used in the changer type model. If there is no disc on the disc slot No. 2, the tray will be open to wait for closing. If there is a disc on the table, the adjustment starts immediately. If you put a disc prior to adjustment, confirm that the CD is set on the disc slot 2.

#### **CD Adjustment Steps**

- 1. Sled Reset
- 2. Disc Check Memory CD
- 3. Set Disc Type CD
- 4. Spindle Start
- 5. Laser Diode ON
- 6. Focus Error Check
- 7. Focus ON 0 with PI Level measure
- 8. Auto Track Offset Adjust L0
- 9. Try Level Check
- 10. Tracking ON
- 11. CLVA ON
- 12. Sled ON
- 13. Auto Focus Balance Adjust
- 14. Auto Loop Filter Offset Adjust
- 15. Auto Focus Gain Adjust L0
- 16. Auto Focus Balance Adjust L0
- 17. EQ Boost Adjust
- 18. Auto Loop Filter Offset Adjust
- 19. Auto Track Gain Adjust
- 20. Copy Adjustment Data to LCD
- 21. RF Level Measure
- 22. Jitter measure
- 23. All Servo Off

#### 3. DVD Dual Layer Disc

Select 3, insert DVD dual layer disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM. The disc slot No. 3 is used in the changer type model. If there is no disc on the disc slot No. 3, the tray will be open to wait for closing. If there is a disc on the table, the adjustment starts immediately. If you put a disc prior to adjustment, confirm that the DL disc is set on the disc slot 3.

#### **DVD Dual Layer Disc Adjustment Steps**

- 1. Sled Reset
- 2. Disc Check Memory DL
- 3. Set Disc Type DL DVD DL Layer 1 Adjust
- 4. Spindle Start
- 5. Laser Diode ON
- 6. Focus ON 0 with PI Level measure
- 7. Auto Track Offset Adjust L1
- 8. Tracking ON
- 9. CIVA ON
- 10. Sled ON
- 11. Auto Focus Balance Adjust
- 12. Auto Loop Filter Offset Adjust
- 13. Auto Focus Gain Adjust L1
- 14. EQ Boost Adjust L1
- 15. Auto Track Gain Adjust L1
- 16. Jitter measure

DVD DL Layer 0 Adjust

- 17. Focus Jump (L1  $\rightarrow$  L0)
- 18. Auto Track Offset Adjust L0
- 19. Tracking ON
- 20. CIVA ON
- 21. Sled ON
- 22. Auto Focus Balance Adjust
- 23. Auto Focus Gain Adjust L0
- 24. Auto Focus Balance Adjust L0
- 25. EQ Boost Adjust L0
- 26. Auto Track Gain Adjust L0
- 27. Jitter measure
- 28. All Servo Stop

#### 4. LCD

LCD disc is not adjusted because the adjusted data of CD are reflected, and SACD (hybrid disc) is not adjusted because the adjusted data of CD and DVD-DL are reflected.

#### 4-5. DRIVE MANUAL OPERATION

On the Test Mode Menu screen, select 2, and the manual operation menu will be displayed. For the manual operation, each servo on/off control and adjustment can be executed manually.

```
## Drive Manual Operation ##
Operation Menu

1. Disc type
2. Servo Control
3. Track/Layer Jump
4. Manual Adjustment
5. Auto Adjustment
6. Memory Check
7. Changer Manual Move
8. Changer Mecha Check
0. Disc Check Memory

Exit: RETURN
```

In using the Manual Operation menu, take care of the following points. These commands do not provide protection, thus requiring correct operation. The sector address or time code field is displayed when a disc is loaded.

1. Set correctly the disc type to be used on the Disc Type setting screen.

The Disc Type setting must be performed after a disc was loaded.

The set Disc Type is cleared when the tray is opened.

- After power ON, if the Manual Operation was selected, first perform "Reset SLED TILT" by opening 1. Disc Type screen.
- 3. In case of an alarm, immediately press the button to stop the servo operation, and turn the power OFF.

Basic operation (controllable from front panel or remote commander)

: Power OFF : Servo stop

(DISC EJECT): Stop+Eject/Loading

(RETURN) : Return to Operation Menu or Test Mode

: Transition between sub modes of menu

1 to 9, 0 : Selection of menu and items

Cursor / \sqrt{\psi} : Increase/Decrease in manually adjusted value

#### 0. Disc Check Memory

```
Disc Check

1. SL Disc Check
2. CD Disc Check
3. DL Disc Check

0. Reset SLED TILT
```

On this screen, the mirror time is measured and written to the EEPROM to check the disc type. First, set a DVD SL disc and press 1, then set a CD disc and press 2, and finally set a DVD DL disc and press 3. The measured mirror time is displayed respectively.

The adjustment must be executed more than once after default data were written.

From this screen, you can go to another mode by pressing [ Let] or [ Let] key, but you cannot enter this mode from another mode. You can enter this mode from the Operation Menu screen only.

#### 1. Disc Type

```
Disc Type
1. Disc Type Auto Check
2. DVD SL 12cm
3. DVD DL
           12cm
4. CD
           12cm
5. LCD
           12cm
6. DVD SL
           8cm
7. DVD DL
           8cm
8. CD
           8cm
9. LCD
           8cm
0. Reset SLED TILT
                         EMG. 00
   0. Reset SLED TIL
```

On this screen, select the disc type. To select the disc type, press the number of the loaded disc. The selected disc type is displayed at the bottom. Selecting 1 automatically selects and displays the disc type. In case of wrong display, retry "Disc Check Memory". Also, opening the tray causes the set disc type to be cleared. In this case, set the disc type again after loading.

In performing manual operation, the disc type must be set.

Once the disc type has been selected, the sector address or time code display field will appear as shown below. These values are displayed when PLL is locked.

```
Disc Type
1. Disc Type Auto Check
2. DVD SL 12cm
3. DVD DL
           12cm
4. CD
           12cm
5. LCD
           12cm
6. DVD SL
           8cm
7. DVD DL
           8cm
8. CD
           8cm
9. LCD
           8cm
0. Reset SLED TILT
         SA.----
                    SI.-- EMG.00
DVD SL
           12cm
                       Jitter FF
```

#### Display when DVD SL 12cm disc was selected

	Disc Type
1. Disc Ty	pe Auto Check
2. DVD SL	12cm
3. DVD DL	12cm
4. CD	12cm
5. LCD	12cm
6. DVD SL	8cm
7. DVD DL	8cm
8. CD	8cm
9. LCD	8cm
0. Reset S	SLED TILT
_	TC: EMG.00
CD	12cm Jitter FF

#### Display when CD 12cm disc was selected

O Reset SLED TILT : Reset the Sled and Tilt to initial position.

(Reset the Sled only to initial position because the Tilt mechanism is not available

in this model.)

1 Disc Type Check : Judge automatically the loaded disc. As

the judged result is displayed at the bottom of screen, make sure that it is correct. If Disc Check Memory menu has not been executed after EEPROM default setting, the disc type cannot be judged. In this case, return to the initial menu and make a check

for three types of discs (SL, DL, CD). : Select the loaded disc. The adjusted value

is written to the address of selected disc. No further entry is necessary if 1 was

selected.

#### 2. Servo Control

Serv	o Con	tro	1	
1. LD	Off	R.	Sled	FWD
2. SP	Off	L.	Sled	REV
3. Focus	Off			
4. TRK.	Off			
5. Sled	Off			
6. CLVA	Off			
7. FCS. Srch	Off			
0. Reset SLED				
_ SA			E	
DVD SL	12cm		Jitt	er FF

On this screen, the servo on/off control necessary for replay is executed. Normally, turn on each servo from 1 sequentially and when CLVA is turned on, the usual trace mode becomes active. In the trace mode, DVD sector address or CD time code is displayed. This is not displayed where the spindle is not locked.

The spindle could run overriding the control if the spindle system is faulty or RF is not present. In such a case, do not operate CLVA.

O Reset SLED TILT : Reset the Sled and Tilt to initial position.

(Reset the Sled only to initial position because the Tilt mechanism is not available

in this model.)

1 LD : Turn ON/OFF the laser. 2 SP : Turn ON/OFF the spindle.

3 Focus : Search the focus and turn on the focus.

4 TRK.: Turn ON/OFF the tracking servo.5 Sled: Turn ON/OFF the sled servo. Wh

: Turn ON/OFF the sled servo. When PLL is not locked (cannot be locked), the sled servo is not turned ON. The display keeps

OFF.)

6 CLVA : Turn ON/OFF normal servo of spindle

servo.

7 FCS. Srch : Apply same voltage as that of focus search

to the focus drive to check the focus drive

system.

**⇒** Sled FWD : Move the sled outward. Perform this op-

eration with the tracking servo turned off.

Eld REV : Move the sled inward. Perform this opera-

tion with the tracking servo turned off.

2 to 9

#### 3. Track/Layer Jump

```
Track/Layer Jump
1.
     1Tj
           FWD R. Fj (L1->L0)
2.
     1Tj
           REV L. Fj (L0->L1)
3.
     2Tj
           FWD U. Lj (L1->L0)
           REV
                D. Lj (L0->L1)
4.
     2Tj
5.
    ΝΤi
           FWD
     NTj
7. 500Ti
           FWD
8. 500Tj
           REV
9. 10k/20k FWD
0. 10k/20k REV
         SA.---- SI.-- EMG.00
DVD DL
             12cm
                     Jitter FF
```

On this screen, track jump, etc. can be performed. Only for the DVD-DL, the focus jump and layer jump are displayed in the right field.

1 1Tj FWD : 1-track jump forward. 2 1Ti REV : 1-track jump reverse. 3 2Tj FWD : 2-track jump forward. 4 2Ti REV : 2-track jump reverse. 5 NTj FWD : N-track jump forward. 6 NT<sub>i</sub> REV : N-track jump reverse. 7 500Ti FWD : Fine search forward. 8 500Ti REV : Fine search reverse. 9 10k/20k FWD : Direct search forward. 0 10k/20k REV: Direct search reverse.

- The following commands are valid for DVD-DL disc only -

 $\implies$  (L1  $\rightarrow$  L0): Focus jump (Trk/Sled Servo OFF) forward.

 $\bigoplus$  (L0  $\rightarrow$  L1): Focus jump (Trk/Sled Servo OFF) reverse.

 $\triangle$  (L1  $\rightarrow$  L0): Layer jump (Trk/Sled Servo ON) forward.

 $\bot$  (L0  $\rightarrow$  L1): Layer jump (Trk/Sled Servo ON) reverse.

#### 4. Manual Adjustment

```
Manual Adjustment:Up/Down
1. TRK. Offset
2. Focus Gain
3. TRK. Gain
4. Focus Offset
5. Focus Balance
6. L.F. Offset
7. Analog FRSW
8. PLL Dac Gain
9. EQ
        BOOST
0. TRK.
        Balance
        SA.---- SI.-- EMG. 00
DVD SL
            12cm
                     Jitter FF
```

On this screen, each item can be adjusted manually. Select the desired number 1 to 0 from the remote commander, and current setting for the selected item will be displayed, then increase or decrease numeric value with 1 key or 4 key. This value is stored in the EEPROM. If CLV has been applied, the jitter is displayed for reference for the adjustment.

1 TRK. Offset : Adjusts tracking offset. 2 Focus Gain : Adjusts focus gain.

3 TRK. Gain : Adjusts track gain. Focus Offset : Adjusts focus offset.

5 Focus Balance: Adjusts focus balance.

6 L.F. Offset : Adjusts loop filter offset.

7 Analog FRSW: Sets select switch of analog feedback circuit.

8 PLL Dac Gain: Adjusts D/A converter gain of PLL.

9 EQ BOOST : Adjusts boost amount of equalizer.

O TRK. Balance: Adjusts tracking balance.

#### 5. Auto Adjustment

```
Auto Adjustment

1. Auto TRK. Offset

2. Auto FCS Balance

3. Auto Focus Offset

4. Auto Focus Gain

5. Auto TRK. Gain

6. Auto EQ.

7. Auto L.F. Offset

8. Auto Group Delay

9. Auto TRK. Balance

_______SA.----- SI.-- EMG.00

DVD SL 12cm Jitter FF
```

On this screen, each item can be adjusted automatically. Select the desired number 1 to 8 from the remote commander, and selected item is adjusted automatically.

```
Auto TRK. Offset
Auto FCS Balance
Auto Focus Offset
Adjusts focus balance.
Adjusts focus offset.
Adjusts focus offset.
Adjusts focus offset.
Adjusts focus gain.
Adjusts focus gain.
Adjusts track gain.
Adjusts track gain.
Adjusts track gain.
Adjusts EQ.
```

Auto L.F. Offset : Adjusts loop filter offset.
Auto Group Delay : Adjusts amount of group delay.
Auto TRK. Balance : Adjusts tracking balance.

#### 6. Memory Check

The display image is shown below and three screens in total can be selected.

```
EEPROM Data 1
                       -- DT, --
            CD LCD SL L0 L1
Focus Gain xx xx xx xx
                            хx
TRK. Gain xx xx xx xx
                            хx
FCS Balance xx xx xx
                        ХX
                            хx
Focus Bias xx xx xx xx xx
TRV. Offset xx xx xx xx
                            XX
L.F. Offset xx xx xx xx xx xx EQ. Boost xx xx xx xx xx
EO.
_ UP
        : Last Data
 DOWN : Next Data
 CLEAR : Default Set page.1/3
```

```
EEPROM Data 2
                    -- DL --
           CD LCD SL L0 L1
RF
  Jitter
          xx -- xx xx
                         XX
RF Level
           xx -- xx
   Level
           xx --
                 xx
          xx -- xx
FE Balance
           xx -- xx --
TRV.Level
TE Gain
           xx xx --
   Level
              -- xx xx --
PΤ
           XX
_ UP
      : Prev Data
 DOWN : Next Data
 CLEAR : Default Set page.2/3
```

```
EEPROM Data 3 -- DL --

CD LCD SL L0 L1

Analog FRSW xx xx xx xx

PLL Dac Gain xx xx xx xx xx

Mirror Time xx xx xx xx xx

TRK. Balance xx xx xx xx xx

THR A&L: xx xx xx/xx xx xx

- UP : Prev Data

DOWN : First Data

CLEAR: Default Set page.3/3
```

On this screen, current servo adjusted data stored in the EEPROM are displayed. The adjusted data are initialized by pressing the CLEAR key, but be careful that they are not recoverable after initialization.

Before clearing the adjusted data, make a note of the set data. This screen will also appear if ① All is selected in the Drive Auto Adjustment. In this case, default setting cannot be made.

"THR A&L" data on the third page cannot be changed if default setting is once made.

#### 7. Changer Manual Move

On this test mode screen, selecting 7 enables the machine operation such as disc loading. The following screen appears.

Display when 7 is selected in the Drive Manual Operation

## Changer Manual Move ## ENTER : Mecha Initial : Loading In PLAY STOP : Loading Out OP/CL : Door Open/Close UP : Poper Up DOWN : Poper Down jogFOR : Table R StepTurn jogPRV : Table L StepTurn DISP : Sensor Status RETURN : Exit

**ENTER** : Performs initialization of mechanism.

Mecha Initial Because the mechanical initialization is performed when the machine enters the Drive

Manual Operation mode, use this item when an error such as adjustment error occurs.

ELOAST : Loads the disc from the chucking position of Loading In the T. table toward inside the MD.

When the Disc Load is selected, a series of operation starting from Loading – Chuck-

ing is performed.

: Moves the disc from inside the MD to the T.

Loading Out table

When the Disc Unload is selected, a series of operation starting from Unloading –

Chucking is performed.

OP/CL : Opens and closes the door.

Door Open/Close

: Pops up the lever.

Poper Up

DOWN : Pops down the lever.

Poper Down

jog FOR : Moves the T. table to the right in units of

Table R step Turn the slit.

The T. table number is incremented in the

direction of positive (+) number.

jog PRV : Moves the T. table to the left in units of the

Table L step Turn sli

The T. table number is decremented in the

direction of negative (-) number.

DISP : When this item is selected, the 400CHG Sensor Status : Sensor Check appears on the screen.

RETURN : Returns to the Operation Menu.

Exit

Display when the Sensor Status is selected in the Changer Manual Move.

```
## 400CHG Sensor Check ##
 Table 1/2/3/4
                  : X/X/X/X
                   : X
 Table lock
 Load in
                   : x
 Load out
                   : X
 Door open
 Door close
                   : X
                   : X
 Poper up
                  : X
 Poper down
 Disc Sensor
RETURN : Exit
```

Table 1/2/3/4: Indicates table sensor 1/2/3/4 status.

(1: High, 2: Low)

Table lock -: Indicates each switch status.

Load in/out Door open/close Poper up/down (1: On, 2: Off)

Disc Sensor : Indicates sensitivity of the disc sensor.

The value is raging from 0 to 3FF.

#### 8. Changer Mecha Check

On this test mode screen, selecting 8 enables the table sensor and the disc sensor adjustment. The following screen appears.

Display when [8] is selected in the Drive Manual Operation

## Changer Mecha Check ## : Mecha Initial ENTER OP/CL : Disc Load/UnLoad jogFOR : Table R StepTurn jogPRV : Table L StepTurn

: Table Rotate PLAY : Mecha Adjust PAHSE : Sensor Status

RETURN : Exit

All operations are the same as those of the Changer Manual Move except OP/CL, PLAY and PAUSE.

: Loads the disc from the chucking position OP/CL Disc Load/UnLoad of the T.table toward inside the MD or from

inside the MD to the T.table.

When the Disc Load is selected a series of operation starting from Door Close - T.table

Rotate - Chucking is performed.

When the Disc UnLoad is selected a series of operation starting from Unchucking -T.table Rotate – Door Open is performed.

PLAY : Enters the Disc Sensor Adjustment Mode. (Refer to the "5. Mechanical Adjustments" Table Rotate

(page 45))

The 400CHG Table Rotate appears on the

screen.

PAUSE : Enters the Table Sensor Adjustment Mode. Mecha Adjust

(Refer to the "5. Mechanical Adjustments"

(page 45))

The 400CHG Mecha Adjust appears on the

screen.

Display when PLAY is selected in the Changer Mecha Check.

## 400CHG Table Rotate ##

RIGHT : Turn Right LEFT : Turn Left

Table 1/2/3/4 : X/X/X/X Disc Sensor : XXX

RETURN : Exit

RIGHT : Rotates T.table anti clock wise.

Turn Right

LEFT : Rotates T.table clock wise.

Turn Left

Table 1/2/3/4 --: These items are the same as those of the

Disc Sensor -400CHG Sensor Check. Display when PAUSE is selected in the Changer Mecha Check.

## 400CHG Mecha Adjust ##

UP : Load in DOWN : Load out RIGHT : Pop Up LEFT : Pop Down

Table 1/2/3/4 : X/X/X/X

RETURN : Exit

UP : Loads the disc from the chucking position

of the T.table toward inside the MD during Load in

pressing UP.

DOWN : Loads the disc from inside the MD to the

Load out T.table during pressing DOWN.

RIGHT : Pops up the lever.

Pop Up

LEFT : Pops down the lever.

Pop Down

Table 1/2/3/4 : This item is the same as that of the 400CHG

Sensor Check.

#### 4-6. MECHA AGING

The mechanism aging is not supported.

#### 4-7. EMERGENCY HISTORY

		###	EM	IG.	His	tor	Y #	##	
Las	ser	Нοι	ırs	CD DVI	D		_		xxm
1.		00						00	
2.		00						00	
- Select: 1-9 Scroll: UP/DOWN (1: Last EMG.) Exit: RETURN									

On the Test Mode Menu screen, selecting 4 displays the information such as servo emergency history. The history information from last "1" up to "10" can be scrolled with 1 key or 4 key. Also, specific information can be displayed by directly entering that number with the ten-key pad from 1 to 9.

The upper two lines display the laser ON total hours. Data below minutes are omitted.

#### Clearing History Information

- Clearing laser hours
   Press DISPLAY and CLEAR keys in this order.
   Both CD and DVD data are cleared.
- Clearing emergency history
   Press TOP MENU and CLEAR keys in this order.
- Initializing setup data
   Press MENU and CLEAR keys in this order.
   The data have been initialized when "Set Up Initialized" message is displayed.

The EMG. History display screen will be restored soon.

#### 4-8. VERSION INFORMATION

```
### Version Information ###

IF con. Ver:x.xxx(xxxx)
    Group xx

SYScon. Ver:x.xxx(xxxx)
    Model xx
    Region 0x

Servo DSP Ver: x.xxx
AVD ucode Ver: xxxxxxxxxx
```

The ROM version, region code, OPT type, etc. are displayed if  $\boxed{5}$  is selected in the Test Mode Menu. The parenthesized hexadecimal number in the version number field indicates the checksum value of the ROM.

#### \* Note after Downloading

After downloading ROM data, sometimes it happens that checksum is not the same as that of ROM data that has been downloaded. In such a case, go back to the menu screen and select "0. Syscon Diagnosis", then select "1. All" in "2. Version". If the result of this operation does not give an agreement, it must be either Download error or ROM error.

#### 4-9. VIDEO LEVEL ADJUSTMENT

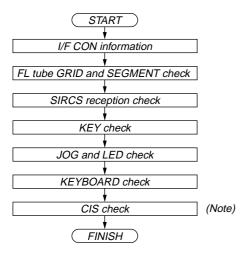
On the Test Mode Menu screen, selecting 6 displays color bars for video level adjustment. During display of color bars, OSD disappears but the menu screen will be restored if pressing any key.

#### 4-10. IF CON SELF DIAGNOSTIC FUNCTION

#### 1. PANEL-L BOARD (IF CON) TEST MODE

The PANEL-L board test mode is the IF CON self diagnostic mode. The IF CON can diagnose the functions of the PANEL-L board that the IF CON controls. Normally, the IF CON makes a serial communication with the SYSTEM CONTROL and operates following he commands from the SYSTEM CONTROL, but in the Test mode, the IF CON operates independently from the SYSTEM CONTROL.

Execute the Self Check Mode along the following flow.



Note: As for the CIS check, conduct the test by another method.

#### 2. OPERATION OF SELF CHECK MODE

The Self Check mode is the function to conduct the basic test to the FL display and panel section.

#### 2-1. How to enter the Self Check mode

The Self Check mode starts if either of the following conditions is satisfied.

#### Condition 1:

With the SELF\_CHECK (pin ①) of the IF CON (IC1003) on the PANEL-L board kept "low", turn the power on. (Short the CL1001.)

#### Condition 2:

While pressing the  $\blacksquare$  key on the set when the set is in standby state, press the  $\frown$  (RETURN)  $\rightarrow$  DISPLAY key on the remote commander and the mode transits to the Self Check mode.

When the Self Check mode started, "TEST START" is displayed on the FL tube for 2 seconds and then the Self Check proceeds to the IF CON information display.

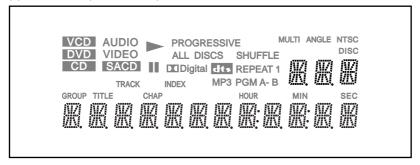
#### 2-2. How to release the Self Check mode

To release the Self Check mode, press the  $\boxed{\mathit{I}' \circlearrowleft}$  key on the set or remote commander during the Self Check mode.

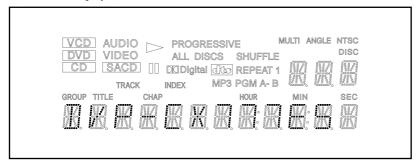
#### 2-3. IF CON information display

Upon transition to the IF CON information display, the display of

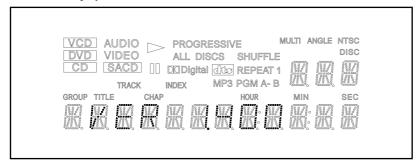
- (1) to (4) shown below is repeated.
- (1) FLD all ON (for 2 seconds)



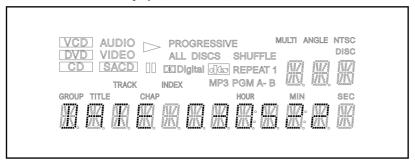
#### (2) MODEL display (for 2 seconds)



#### (3) Version display (for 2 seconds)



#### (4) ROM creation date display (for 2 seconds)



If the JOG dial on the front panel of the set is pressed, the test proceeds to the following FL tube GRID and SEGMENT check.

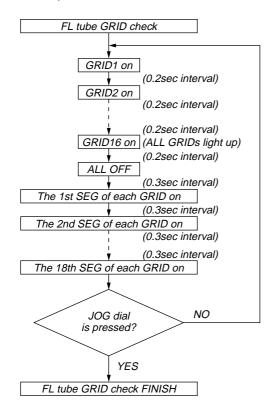
#### 2-4. FL tube GRID and SEGMENT check

First, a grid lights up one after another, and when grid 16 lights up, all grids light up.

Next, all grids go off, and segments are displayed while changing the patterns.

A way of this display is repeated.

(The interval of grid lighting is 0.2 second, and that of segment lighting is 0.3 second.)

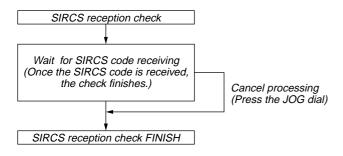


If the JOG dial on the front panel of the set is pressed, the test proceeds to the following SIRCS reception check.

#### 2-5. SIRCS reception check

Upon start of the SIRCS reception check, "SIRCS CHECK" is displayed on the FL tube.

Once the SIRCS key code is received, the test proceeds to the following KEY check.



If the JOG dial on the front panel of the set is pressed as a cancel processing of the SIRCS reception check, the test proceeds to the following KEY check.

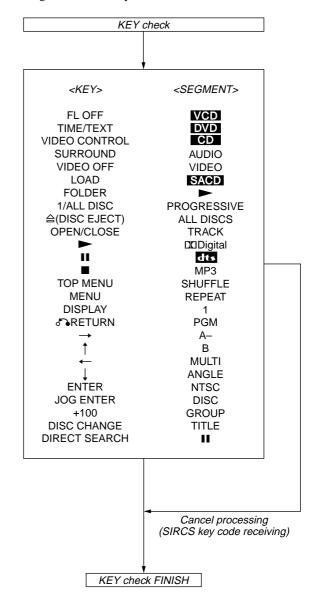
#### 2-6. KEY check

After the SIRCS reception check finished, the KEY check is ex-

Upon start of the KEY check, "KEY CHECK" is displayed on the FL tube.

25 keys are checked as described below.

Each time a key (except 1/2) key) is pressed, the specified segment lights up, and at one second after all keys were pressed, all of FL tube go off and the Key check finishes.



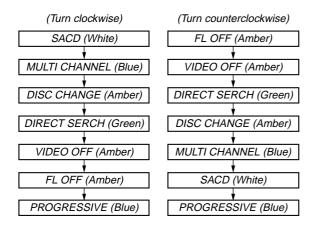
If the SIRCS key code is received as a cancel processing of the KEY check, the test proceeds to the following JOG and LED check.

#### 2-7. JOG and LED check

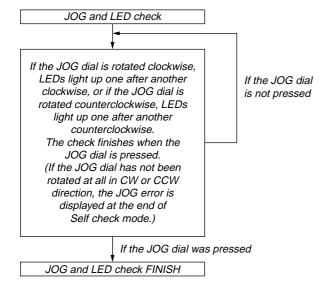
After the Key check finished, the JOG and LED check is executed as follows.

Upon start of the JOG and LED check, "JOG AND LED" is displayed on the FL tube.

There are seven LEDs. The order in which the LEDs light up when the JOG dial is rotated is as described below.



If the JOG dial is pressed during the JOG and LED check, the JOG and LED check finishes and the test proceeds to the following KEYBOARD check.

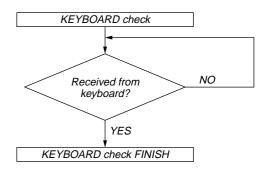


#### 2-8. KEYBOARD check

After the JOG and LED check finished, the KEYBOARD check is executed

Once a signal is received from the keyboard, the KEYBOARD check finishes.

The "KEYBOARD" is displayed on the FL tube until a signal is received from the keyboard.



If the JOG dial on the front panel of the set is pressed during the KEYBOARD check, the KEYBOARD check finishes and the test proceeds to the following check.

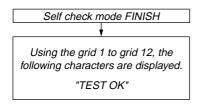
#### 2-9. CIS check

The CIS check is conduced by another method, and therefore it is not executed in the IF CON Self Check mode.

#### 2-10. Operation at completion of Self Check Mode

After the CIS check finished, characters indicating the completion of Self Check mode are displayed.

At this time, even if a signal from a key on the set, remote commander, or keyboard is received, nothing changes.



At the SIRCS reception check, KEY check, JOG and LED check, and KEYBOARD check, if you proceed to the next check without completing current check, the check name that has not completed yet is displayed instead of "TEST OK", as follows.

If SIRCS reception check has not completed (If JOG dial is pressed during SIRCS reception check)	"SIRCS NG"
If KEY check has not completed (If SIRCS key code is received during KEY check)	"KEY NG"
If JOG and LED check has not completed (If JOG dial is pressed without rotating JOG dial even once during JOG and LED check)	"JOG LED NG"
If KEYBOARD check has not completed (If JOG dial is pressed during a signal reception from keyboard)	"KEYBOARD NG"

Also, if two or more checks have not completed yet

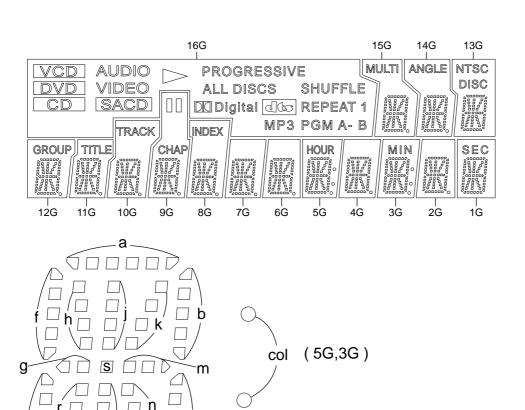
All four checks are erroneous	"S KY J KB NG"
Three checks are erroneous	"S J KB NG" "S KY KB NG"
Two checks are erroneous	" KY KB NG" " KY J NG"

Each error is displayed at the fixed position of the FL tube (not left aligned), and the items that have completed are blank.

**Note:** The alphabets mentioned above denote the following checks.

S : SIRCS reception check
KY : KEY check

J : JOG and LED check KB: KEYBOARD check NG: There are error items.



( 15G~1G )

ANO	DE CONNECTIC	<u>N</u>														
	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	CD	а	а	а	а	а	а	а	а	а	а	а	а	а	а	а
P2	SACD	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
P3	DVD	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j
P4	VCD	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k
P5	VIDEO	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
P6	AUDIO	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
P7	DIO Digital	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
P8	MP3	S	s	s	s	s	s	S	s	s	s	S	s	s	S	s
P9	PGM	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
P10	A-	е	е	е	е	е	е	е	е	е	е	е	е	е	е	е
P11	В	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
P12		р	р	р	р	р	р	р	р	р	р	р	р	р	р	р
P13	<b>W</b>	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r
P14	PROGRESSIVE	С	С	С	С	С	С	С	С	С	С	С	С	С	С	С
P15	ALL DISCS	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d
P16	SHUFFLE	-	-	1	-	-	-		-	-	-	col	-	col	-	-
P17	REPEAT	Dp	Dp	DISC	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	-
P18	1	MULTI	ANGLE	NTSC	GROUP	TITLE	TRACK	CHAP	INDEX	-	-	HOUR	-	MIN	•	SEC

Op (15G,14G,12G~2G)

#### 4-11. TROUBLESHOOTING

#### 4-11-1. Cannot Enter Test Mode

You cannot enter the Test mode when either button has been pressed by any reason with the board assembled in the front panel. In this state, the power does not turn on even under normal condition (the unit is kept in standby state), and also no button is active and the remote commander is not accepted. To check this state, you can enter forcibly the IF CON self-diagnosis mode by turning on the AC power with the SELF\_CHECK (pin ①) of the IF CON (IC1003) on the PANEL-L board kept "low". The IF CON (IC1003) checks the SELF CHECK port only after the power on reset (only at AC supply, not in standby state).

#### 4-11-2. Faults in Test Mode (MB board)

#### 1. The test mode menu is not displayed.

#### 1-1. Board visual check

Check that the ICs of SYSCON (IC104), ROM (IC106), AVD (IC403), ARP & SERVO (IC301) are working correctly.

Check that outside appearance of the ICs is normal.

Check that IC pins are not short-circuited.

Check that there is no soldering error.

Check that outside appearance of the capacitors and resistors is normal.

#### 1-2. Power supply voltage check

Check the power voltage of the power connector (CN101).

Check the power voltage of SYSCON (IC104).

Check the power voltage of ROM (IC106).

Check the power voltage of AVD (IC403).

Check the power voltage of ARP & SERVO (IC301).

If the power voltage has any abnormality  $\rightarrow$ 

Check that the power supply lines are not shorted.

Check that there is no soldering error.

If any abnormality cannot be found still →

Check that each IC is working normally.

#### 1-3. Clock signal check

Measure the clock signal frequency at CPUCK (CL102) of SYSCON (IC104) with an oscilloscope.

If the 8.25 MHz signal appears.  $\rightarrow$  Check the machine according to section 1-3-1

If the 33 MHz signal appears. → Check the machine according to section 1-3-2.

If other frequencies are output.

R106 and R107 have defective soldering, X101 crystal oscillator is defective.

If the measurement point is fixed to either "H" or "L". →
Observe XRESET (pin-10 of SYSCON (IC104) with an oscilloscope.

If the measurement point is "L", check the following items. If the IC has defective soldering, if the IC is short-circuited. If the measurement point is "H",

→ Component X101 or SYSCON (IC104) is defective.

#### 1-3-1. When the 8.25 MHz signal appears at CPUCK

• Check the XRD, XWRH and CS0X signal.

Observe XRD (pin-10), XWRH (pin-10), and XROMCS (pin-10) of SYSCON (IC104) with an oscilloscope.

If these pins are fixed to either "L" (0V) or "H" (3.3V), or if these pins stay in the center voltage, check the followings.

Check if the signal line does not have the defective solder-

Check if the signal line is short-circuited with other signal lines

If you cannot find any problem  $\longrightarrow$  SYSCON (IC104) is defective.

#### • HA [0 to 21] signal and HD [0 to 15] signal check

Observe HA [0 to 21] (pins-1 to 1, or SYSCON (IC104) and HD [0 to 15] (pins-1 to 1, to 1,

If these pins are fixed to either "L" (0V) or "H" (3.3V), or if the HA pin stays in the center voltage, check the followings. (HD stays in the center voltage when it is normal.)

→ Check if the signal line does not have the defective soldering, or is short-circuited with other signal line or SYSCON (IC104) is defective.

#### · Reset signal check

Check if XRESET (pin- $\mathfrak{B}$ ) of SYSCON (IC104) normal or not.

The signal starts up at the same time as  $Vcc \rightarrow Defective$  soldering.

If the trouble does not apply to any of the above-described phenomenon, SYSCON (IC104) or ROM (IC106) is defective.

#### 1-3-2. When the 33 MHz signal appears at CPUCK

#### WAIT signal check

Observe XWAIT (pin-160) of SYSCON (IC104) with an oscilloscope.

If it is fixed to "L" (0V).  $\rightarrow$  Observe XAVCS0, XAVCS1, XARPCS and XSDSPCS (pins-6) to 6).

If XAVCS0 or XAVCS1 is "L". → AVD (IC403) has defective soldering or AVD is defective.

If XARPCS or XSDSPCS is "L". → ARP & SERVO (IC301) has defective soldering or ARP & SERVO is defective.

If any one of the above is not "L". → XWAIT, XAVCS0, XAVCS1, XARPCS and XSDSPCS is short-circuited or has the defective soldering or AVD (IC403) is defective or ARP & SERVO (IC301) is defective.

Center voltage → The XWAIT line has defective soldering or is short-circuited or AVD (IC403) is defective or ARP & SERVO (IC301) is defective or SYSCON (IC104) is defective.

#### XROMCS, XRAMCS, XAVCS0, XAVCS1, XARPCS and XSDSPCS signal check

Observe XROMCS, XRAMCS, XAVCS0, XAVCS1, XARPCS and XSDSPCS (pins-1988) to 1986 of SYSCON (IC104) with an oscilloscope.

If they are fixed to "L" (0V) or if to center voltage  $\rightarrow$  Check that the ICs do not have the defective soldering or is shortcircuited with the other signal lines or SYSCON (IC104) is defective.

XROMCS: ROM (IC106)

XAVCS0, XAVCS1: AVD (IC403)

XARPCS, XSDSPCS: ARP & SERVO (IC301)

If the trouble symptom does not apply to any of the above phenomenon, SYSCON (IC104) or ROM (IC106) is defective.

### 2. Test mode menu is displayed but the machine stops when menu is selected

#### 2-1. AVD (IC403) check

Observe SDCLKO (pin-10) of AVD (IC403) with an oscilloscope.

95 MHz → No problem

27 MHz → Observe the XRST, HA, HD, XRD, XWRH and CS signal waveform at the respective pins of AVDEC, AVD (IC403) is defective.

If the signal is other than the above frequencies → AVD (IC403) 27MHz signal line (CLKI (pin-<sup>1</sup>/<sub>1</sub>)), SCLKIN (pin-<sup>1</sup>/<sub>2</sub>)) is short-circuited, IC mount is defective, AVD (IC403) is defective, PLL (IC103) is defective.

#### 2-2. INT signal check

Observe XAVDECINT, XARPINT and XSDSPINT (pins-16) to (18) of SYSCON (IC104) with an oscilloscope.

If they are fixed to "L" (0V) or fixed to the center voltage — Check that the ICs do not have the defective soldering, or are short-circuited, SYSCON (IC104) is defective, or the following ICs are not defective.

XAVDECINT: AVD (IC403)

XARPINT, XSDSPINT: ARP & SERVO (IC301)

# 2-3. If any abnormality cannot be confirmed by the above-described checks, check the CS signal that is currently output.

The CS signal other than XROMCS is being output.  $\rightarrow$  IC mount is defective or the IC is defective depending on the moving CS signal.

XAVCS0, XAVCS1: AVD (IC403)

XARPCS, XSDSPCS: ARP & SERVO (IC301)

If the trouble is not applicable to any of the above phenomenon, SYSCON (IC104) or ROM (IC106) is defective.

## 3. If the message "SDSP No Ack" appears after the menu is displayed.

#### 3-1. ARP & SERVO (IC301) clock signal check

Check frequency of CLKIN (pin-150)

33 MHz → Normal

Frequency other than 33 MHz  $\rightarrow$  CLKIN is short-circuited or defective soldering or PLL (IC103) is defective or ARP & SERVO (IC301) is defective

#### 3-2. ARP & SERVO (IC301) PLL oscillation check

Observe PLCKO (pin-169) of ARP & SERVO (IC301) with an oscilloscope.

If the pin is fixed to either "L" (0V) or "H" (3.3V).

If XRST if fixed to "L". XRST has the defective soldering, In all other cases. ARP & SERVO (IC301) is defective

If it is oscillating.

HA [0 to 7] are HD [8 to 15] are short-circuited, check XSDPIT and XSDPCS or ARP & SERVO (IC301) is defective

#### If trouble occurs at the specific item of the "Diag All Check".

IC mount of the NG item is defective or IC is defective.

#### 5. Picture and audio are not output.

Check connection of CN501 and CN601

Check for the defective connection of flat cable and check of damage of the flat cable.

#### 6. Picture is output but audio is not output.

Check the audio data output (at pins-24), 28, and 29) of AVD (IC403)

The audio data is not output.  $\rightarrow$  AVD (IC403) or audio DAC (IC502) mount is defective or power supply is defective or AVD (IC403) or audio DAC (IC502) is defective.

PLL (IC103) 512fs output check

If the frequency or waveform has abnormality. → The signal line has defective soldering or the signal line is short-circuited with other signal lines or PLL (IC103) is defective.

### 7. Audio is output but picture is not output.

Observe pins-③7, ③8, ③9, ④2, ④3 and ④4 of VDAC (IC604) with an oscilloscope.

If the analog signal is not output.  $\rightarrow$  The signal line has the defective soldering or is short-circuited or parts are defective or VDAC (IC604) is defective.

#### 4-11-3. Drive Auto Adjustment stops due to error.

The ARP & SERVO (IC301) analog circuit of MB board is defective or RF-Amp (IC201) or M-Driver (IC202) peripheral circuit is defective or optical pickup block is defective or flat cable connection is defective

#### 4-11-4. The product itself is defective.

• If MB does not have any problem,

The board other than MB board is defective or connection is defective or optical pickup block is defective or mechanism deck is defective

#### FL display does not light when the POWER button is pressed.

# 1-1. Check the EVER -11V (pin-②), EVER +5V (pin-③), EVER +3.3V (pin-⑪), SW +5V (pin-⑫) voltage at CN201 of the power supply block

If voltage is abnormal.  $\rightarrow$  The power supply block is defective.

### 1-2. Check if the fuse on the power block has blown of not.

If the fuse has blown  $\rightarrow$  Replace the fuse.

# 1-3. Check the P-CONT (pin-1) at CN205 of the AV board when the POWER button is pressed.

If it remains at "L",

→ The signal line has the defective soldering or it is short-circuited with other signal lines or capacitor or resistor is defective or IFCON is defective or connection between the power supply block and the AV board is defective, or connector installation is defective, or the power supply block is defective.

## 1-4. Check if the button is kept depressed in the IFCON self mode.

If the button is kept depressed. → The front panel is defective, or PANEL-L board is defective.

# 1-5. Check PON\_CHECK (pin ) of IFCON (IC1003) on the PANEL-L board.

If it is 0.5 V or more.  $\rightarrow$  The power supply is defective, or PANEL-L board is defective.

### 1-6. Check FL1001 (pin-① & pin-④) on the PANEL-L board.

If no voltage supply  $\rightarrow$  DC/DC converter (T1081) defective, or the PANEL-L board is defective.

## 2. FL display light once and becomes not light when POWER button is pressed.

# 2-1. Check CN201 voltage of the power supply block when the FL display light on.

If voltage is abnormal. 

The power supply block is defective, or the PANEL-L board is defective, or MB board is defective.

#### 2-2. Check XFRRST (pin-2) at CN102 on the MB board.

If it is fixed to "L".  $\rightarrow$  The signal line has defective soldering, or is short-circuited with other signal lines, or parts are defective.

# 2-3. Check XIFBUSY (pin-3), XIFCS (pin-4), SI0 (pin-5), SO0 (pin-6) and SC0 (pin-7) at CN102

If they are fixed to "H" or "L".

→ The signal line has defective soldering, or is short-circuited with other signal line, or parts are defective, or SYSCON (IC104) is defective

If they change between "L/H".

Connector installation is defective, or the PANEL-L board is defective, or SYSCON (IC104) is defective.

If they stay in the center voltage.

Poor connection of flexible wiring board such as it is inserted in an angle diagonally, or defective soldering, or is short-circuited with other signal line.

# 2-4. Check PON\_CHECK (pin ) of IFCON (IC1003) on the PANEL-L board.

If rise-up time from 0.5 V to 1.5 V or more takes longer time, or it does not exceed 1.5 V or more.  $\rightarrow$  The PANEL-L board is defective.

#### 3. Both picture and audio are not output.

Connection between the power supply block and the AV board is defective, or connection between the AV board and the MB board is defective, or connector installation is defective, or AV board is defective.

### 4. Picture is not normal. (Block noise or others appear.)

The MB board AVD (IC403) or SDRAM (IC404, IC405) is defective, or ARP & SERVO (IC301) is defective.

# SECTION 5 MECHANICAL ADJUSTMENTS

#### POP UP MECHANISM ADJUSTMENT

- 1. Connect the AC plug of the set to AC consent, then the set enters standby mode.
- 2. Press the TOP MENU, CLEAR and I/U key in turn, then the set enters the diag mode.
- 3. Select 2. Drive Manual Operation by pressing the 2 key.
- 4. Select 8. Changer Mecha check by pressing the 8 key.
- 5. Press the **ENTER** key, then the CDM initializies.
- Press the PAUSE key, then the T.table rotates to the mecha adjustment position, the door opens and the T. table locks. (Fig. 1)
- 7. Keep pressing the RIGHT key to raise the pop up part.
- 8. Loosen the adjusting screw, move the screwdriver left and right until the lever (POP UP) does not touch the slit wall, and secure the screw. (Fig. 2)

The following keys have special functions in this mode.

UP key : Loading mechanism IN operation
DOWN key : Loading mechanism OUT operation

RIGHT key: Pop up part UP operation

LEFT key: Pop up part DOWN operation

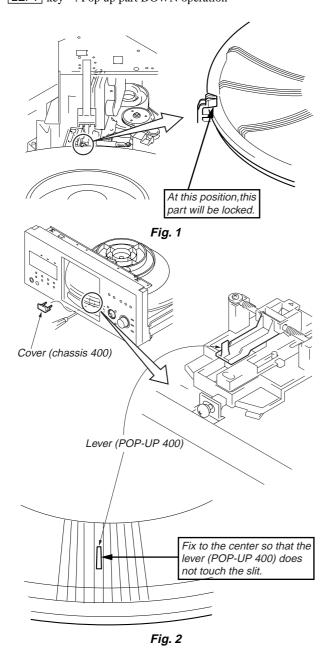
#### TABLE SENSOR ADJUSTMENT

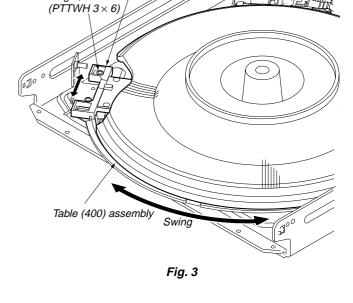
After the Pop Up Mechanism Adjustment, perform this adjustment continuously.

- Loosen the fixing screw. Moving the holder little by little, stop
  it at a boundary point where the PROGRESSIVE LED (blue)
  goes off and the SACD LED (white) lights up. If the holder is
  moved in reverse direction, stop the holder at a point where
  the SACD LED goes off and the PROGRESSIVE LED lights
  up.
- 2. Moving the T. table right and left with a hand after the screw is fixed, the table will move by the play of the T. table. If the LEDs light up alternately, the adjustment will be performed correctly. (Fig. 3)

Holder (table sensor 400)

S tight, screw





# SECTION 6 ELECTRICAL ADJUSTMENTS

In making adjustment, refer to 5-5. Adjustment Related Parts Arrangement.

This section describes procedures and instructions necessary for adjusting electrical circuits in this unit.

#### Instruments required:

- 1) Color monitor TV
- 2) Oscilloscope 1 or 2 phenomena, band width over 100 MHz, with delay mode
- 3) Frequency counter (over 8 digits)
- 4) Digital voltmeter
- 5) Standard commander (RM-DX700)
- 6) CD reference disc YEDS-18 (3-702-101-01) PATD-012 (4-225-203-01)
- 7) DVD reference disc HLX-501 (J-6090-071-A) (dual layer) (NTSC) HLX-503 (J-6090-069-A) (single layer) (NTSC) HLX-504 (J-6090-088-A) (single layer) (NTSC) HLX-505 (J-6090-089-A) (dual layer) (NTSC)
- 8) SACD reference disc HLXA-509 (J-6090-090-A)
- 9) Extension Cable (J-6090-107-A)

#### 6-1. AUTO SERVO ADJUSTMENT

After parts related to the servo circuit (RF amplifier (IC201), DSP (IC301), motor driver (IC202), EEPROM (IC101) so on) are replaced, re-adjusting the servo circuit is necessary. Select "ALL" at "DRIVE AUTO ADJUSTMENT" (Refer to page 27 in TEST MODE) and adjust DVD-SL (single layer), CD and DVD-DL (dual layer).

#### 6-2. POWER SUPPLY CHECK

#### 1. POWER Board

Mode	E-E			
Instrument	Digital voltmeter			
EVER +3.3 V Check				
Test point	CN201 pin 11			
Specification	$3.5 \pm 0.2  \text{Vdc}$			
SW +3.3 V Check				
Test point	CN201 pin ®			
Specification	$3.5 \pm 0.2  \text{Vdc}$			
SW +5 V Check				
Test point	CN201 pin <b>②</b>			
Specification	$5.0 \pm 0.3  \text{Vdc}$			
SW +11 V Check				
Test point	CN201 pin <b>6</b> , <b>7</b>			
Specification	11.0 ± 1.0 Vdc			
EVER +5 V Check				
Test point	CN201 pin <b>③</b>			
Specification	$5.0 \pm 0.3 \text{Vdc}$			
EVER -11 V Check				
Test point	CN201 pin ②			
Specification	$-11.0 \pm 1.0 \text{ Vdc}$			

#### Checking method:

1) Confirm that each voltage satisfies the specification.

#### Note

Because the heatsink installed on the power supply board is a part of the primary side, never touch it to avoid electrical shock.

#### 6-3. ADJUSTMENT OF VIDEO SYSTEM

#### 1. Video Level Adjustment (MB Board)

#### <Purpose>

This adjustment is made to satisfy the NTSC standard, and if not adjusted correctly, the brightness will be too large or small.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	LINE OUT (VIDEO) connector (75 Ω terminated)
Instrument	Oscilloscope
Adjusting element	RV601
Specification	1.0 <sup>+0.04</sup> <sub>-0.02</sub> Vp-p

#### Adjusting method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- 2) Adjust the RV601 to attain  $1.0^{+0.04}_{-0.02}$  Vp-p.



Fig. 6-1

#### 2. Progressive Video Output Level Adjustment (MB Board)

#### <Purpose>

This adjusts progressive video output level. If it is incorrect, correct brightness will not be attained when connected to, for instance, projector.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	COMPONENT VIDEO OUT (Y) connector (75 Ω terminated)
Instrument	Oscilloscope
Adjusting element	RV602
Specification	1.0 <sup>+0.04</sup> <sub>-0.02</sub> Vp-p

#### Adjusting method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- 2) Adjust the RV602 to attain  $1.0^{+0.04}_{-0.02}$  Vp-p.



Fig. 6-2

### 3. Checking S Video Output S-Y

#### <Purpose>

Check S-terminal video output. If it is incorrect, pictures will not be displayed correctly in spite of connection to the TV with a Sterminal cable.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	S VIDEO OUT (S-Y) connector (75 Ω terminated)
Instrument	Oscilloscope
Specification	1.0 ± 0.05 Vp-p

#### Checking method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- Confirm that the S-Y level is  $1.0 \pm 0.05$  Vp-p.



Fig. 6-3

#### 4. Checking S Video Output S-C

#### <Purpose>

This checks whether the S-C satisfies the NTSC standard. If it is not correct, the colors will be to dark or light.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	S VIDEO OUT (S-C) connector
	(75 Ω terminated)
Instrument	Oscilloscope
Specification	$A = 286 \pm 30 \text{ mVp-p (NTSC)}$

#### Checking method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- Confirm that the S-C burst is "A".



Fig. 6-4

# 5. Checking Component Video Output Y <Purpose>

This checks component video output Y. If it is incorrect, correct brightness will not be attained when connected to, for instance, projector.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	COMPONENT VIDEO OUT (Y) connector (75 Ω terminated)
Instrument	Oscilloscope
Specification	1.0 ± 0.05 Vp-p

#### Checking method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- 2) Confirm that the Y level is  $1.0 \pm 0.05$  Vp-p.



Fig. 6-5

### 6. Checking Component Video Output B-Y

#### <Purpose>

This checks component video output B-Y. If it is incorrect, correct colors will not be displayed when connected to, for instance, projector.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	COMPONENT VIDEO OUT (P <sub>B</sub> /C <sub>B</sub> ) connector (75 Ω terminated)
Instrument	Oscilloscope
Specification	$A = 646 \pm 50 \text{ mVp-p}$

#### **Checking method:**

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- 2) Confirm that the B-Y level is A.

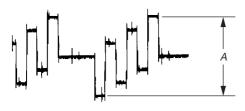


Fig. 6-6

# 7. Checking Component Video Output R-Y <Purpose>

This checks component video output R-Y. If it is incorrect, correct colors will not be displayed when connected to, for instance, projector.

Mode	Video level adjustment in test mode
Signal	Color bars
Test point	COMPONENT VIDEO OUT (P <sub>R</sub> /C <sub>R</sub> ) connector (75 Ω terminated)
Instrument	Oscilloscope
Specification	$B = 646 \pm 50 \text{ mVp-p}$

#### Checking method:

- 1) In the test mode initial menu "6" Video Level Adjustment, set so that color bars are generated.
- 2) Confirm that the R-Y level is B.

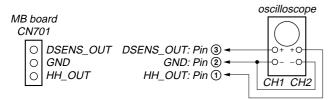


Fig. 6-7

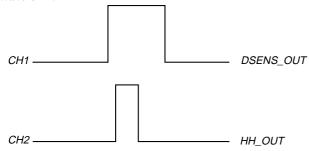
#### 6-4. DISC DETECT SENSOR ADJUSTMENT

Be sure to perform this adjustment after sensor adjustment in ME-CHANICAL ADJUSTMENT.

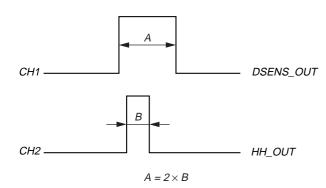
#### **Connection:**



#### Waveform:

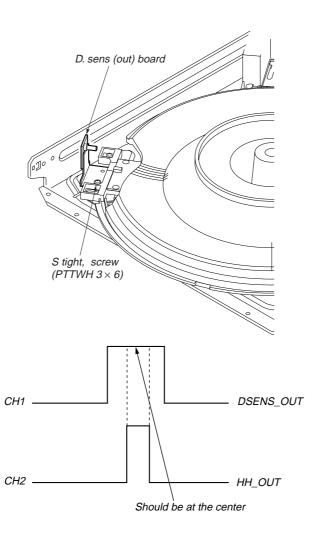


- 1. Connect the oscilloscope to Pins ①, ② and ③ of CN701 of the MB board.
- 2. Check that no discs are loaded in the unit.
- Perform from step 1 to step 5 in Pop Up Mechanism Adjustment.
- 4. Press the PAUSE key, then the T.table starts to rotate in the clockwise direction.
- 5. Rotate RV101 of MB board and adjust so that the H portion A of DSENS\_OUT waveform is twice the width of the H portion B of HH\_OUT waveform.



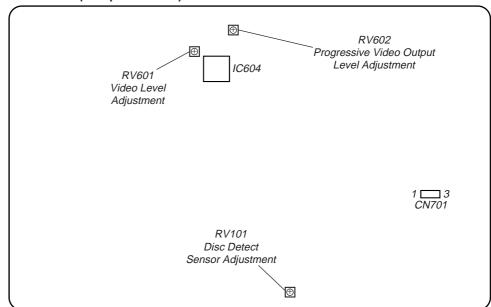
#### Adjustment Location: MB board

 Loosen the fixing screw, move the mounting board (SENSOR), and secure the mounting board (SENSOR) at the point the H portion of the HH\_OUT waveform comes the center of the H portion of the DSENS\_OUT waveform.

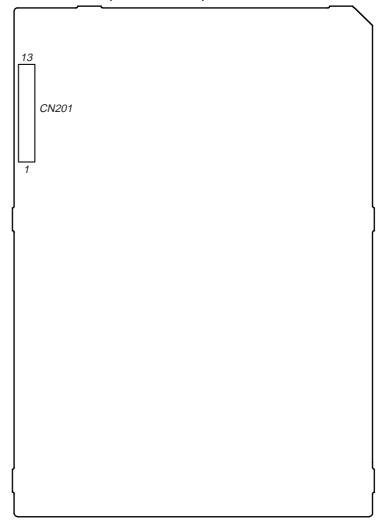


#### **Adjustment Location:**

### - MB Board (Component Side) -

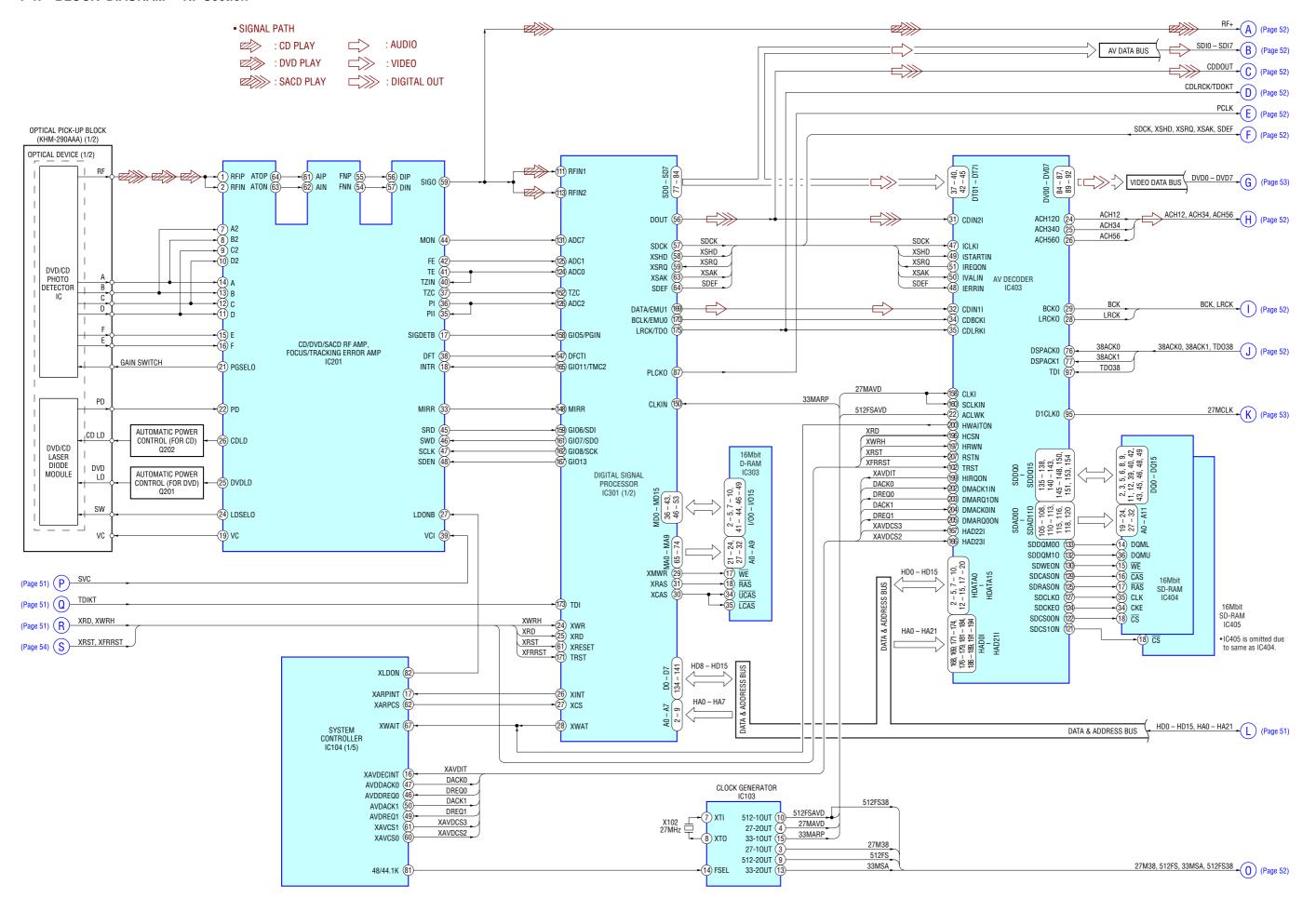


### - POWER Board (Conductor Side) -

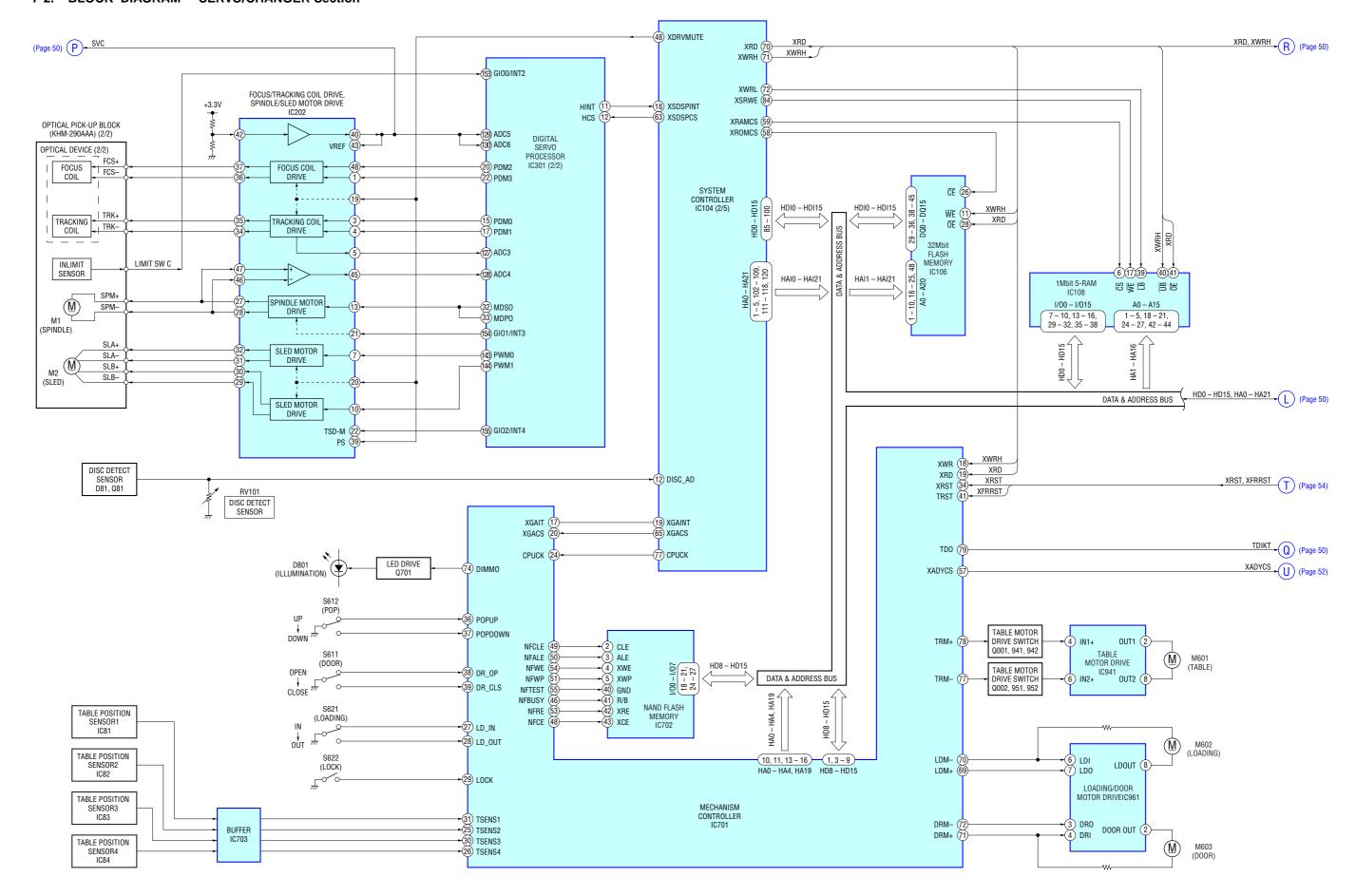


# SECTION 7 DIAGRAMS

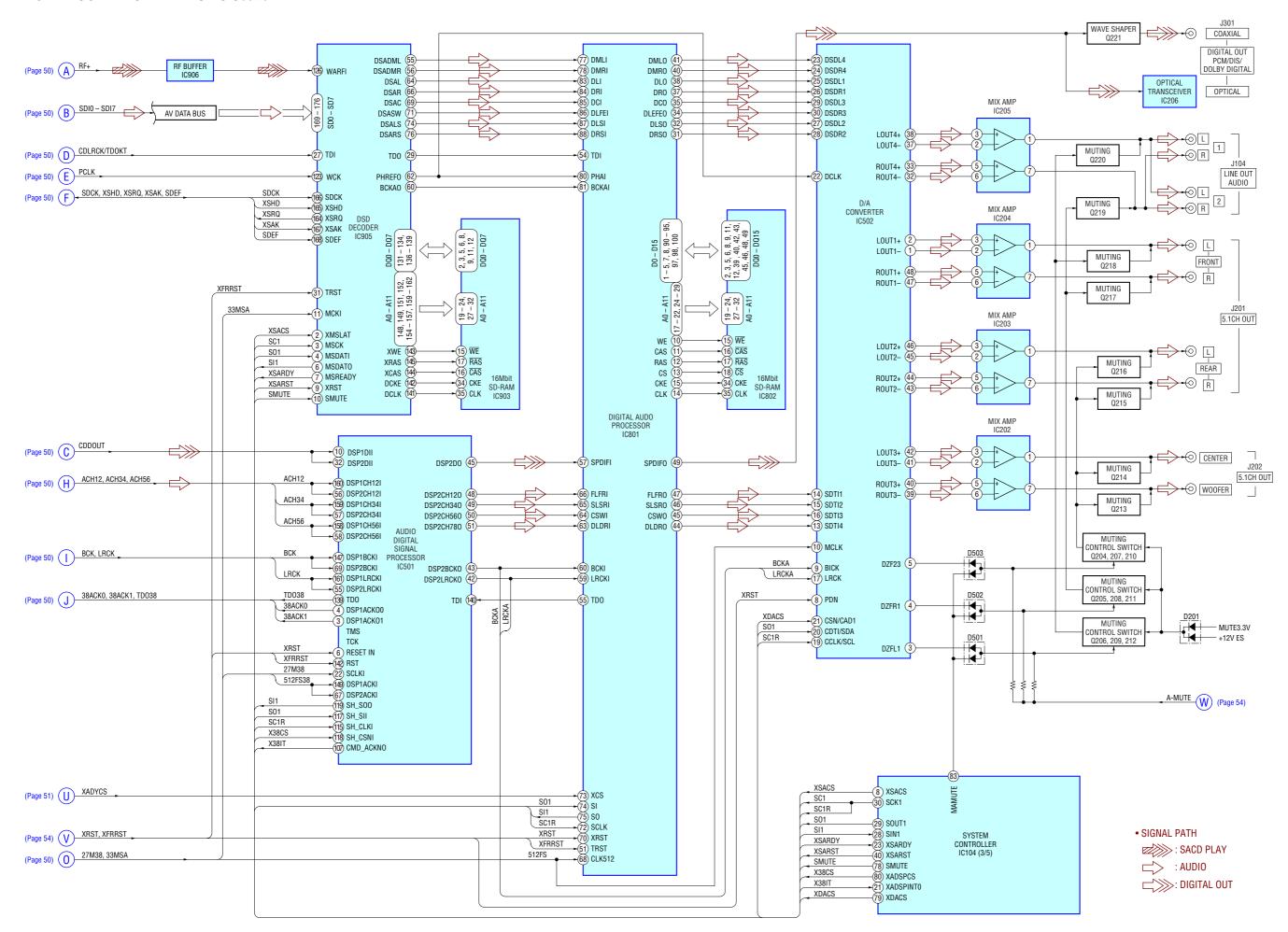
#### 7-1. BLOCK DIAGRAM - RF Section -



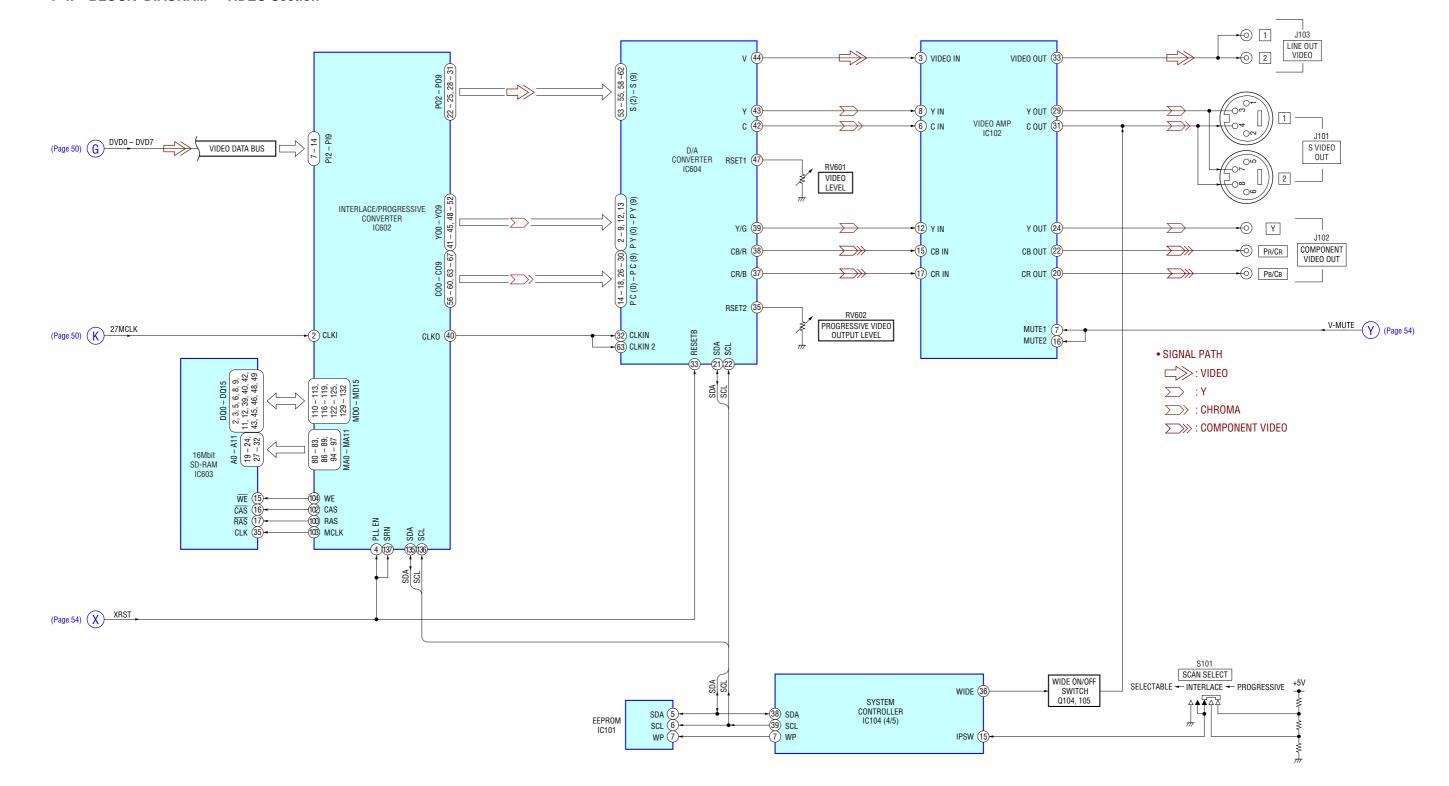
#### 7-2. BLOCK DIAGRAM - SERVO/CHANGER Section -

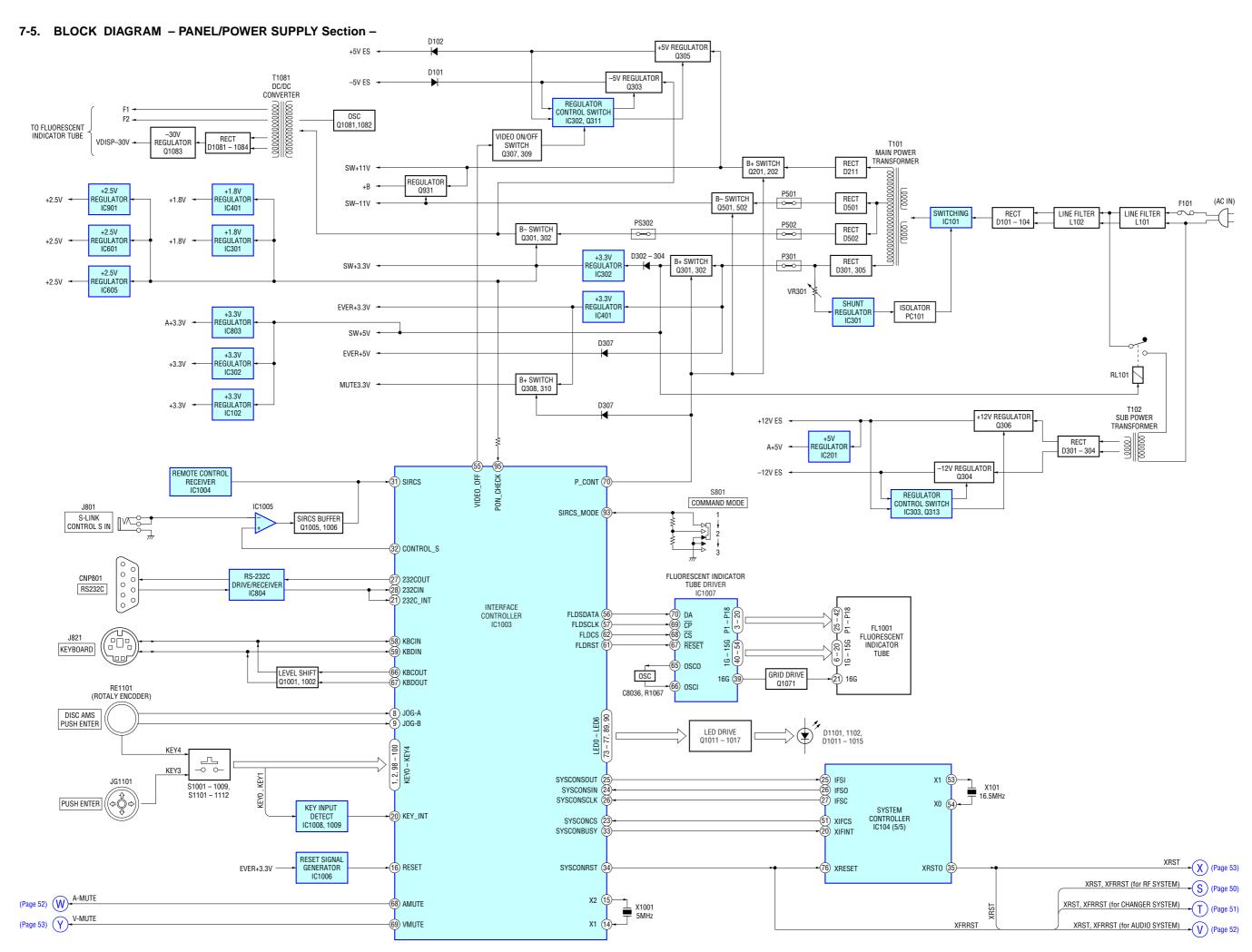


#### 7-3. BLOCK DIAGRAM - AUDIO Section -



### 7-4. BLOCK DIAGRAM - VIDEO Section -





#### 7-6. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

### Note on Printed Wiring Board:

- : parts extracted from the component side. : parts extracted from the conductor side.
- △ : internal component.
- Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

#### Caution:

Parts on the pattern face side seen from Pattern face side: (Conductor Side) the pattern face are indicated. Parts face side: Parts on the parts face side seen from (Component Side) the parts face are indicated.

- MB board is multi-layer board. However, the patterns of intermediate-layer not been included in diagram.
- · Indication of transistor



#### Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $^{1}/_{4}$  W or less unless otherwise specified.
- Δ : internal component. : nonflammable resistor. : panel designation.

#### Note:

The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.

Replace only with part number specified.

#### Note:

Les composants identifiés par une marque  ${\it \triangle}$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line.
- ---: B- Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark: DVD PLAY ): SACD PLAY ]:CD PLAY

- : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10  $M\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

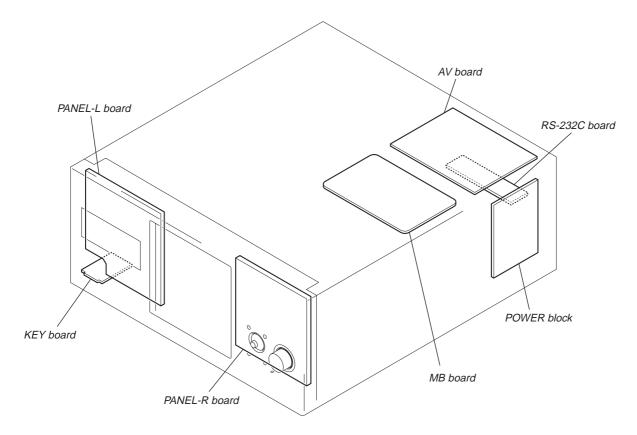
: CD PLAY : DVD PLAY

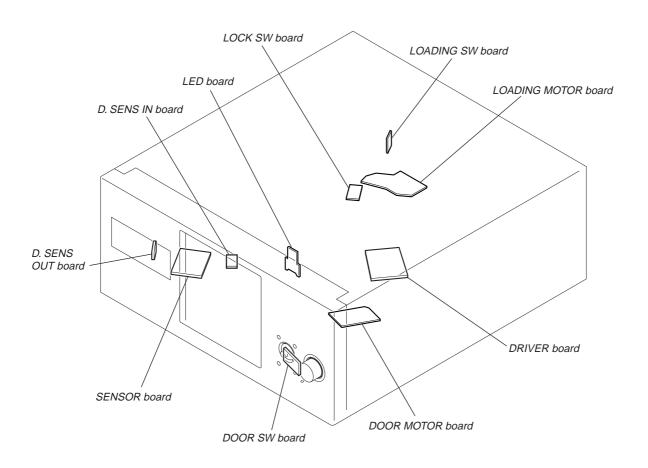
: SACD PLAY : AUDIO : VIDEO

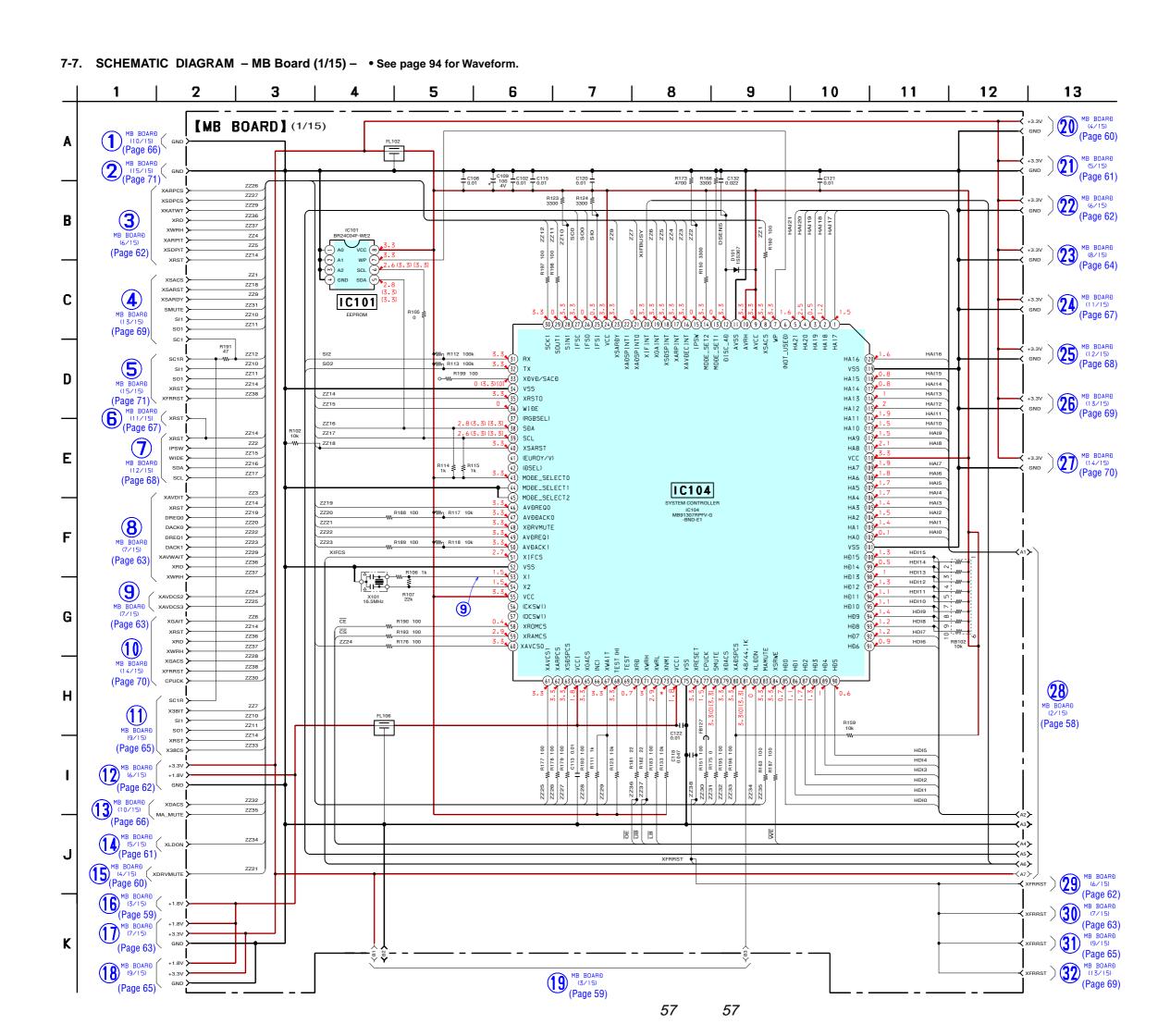
: DIGITAL OUT

: CHROMA : COMPONENT VIDEO

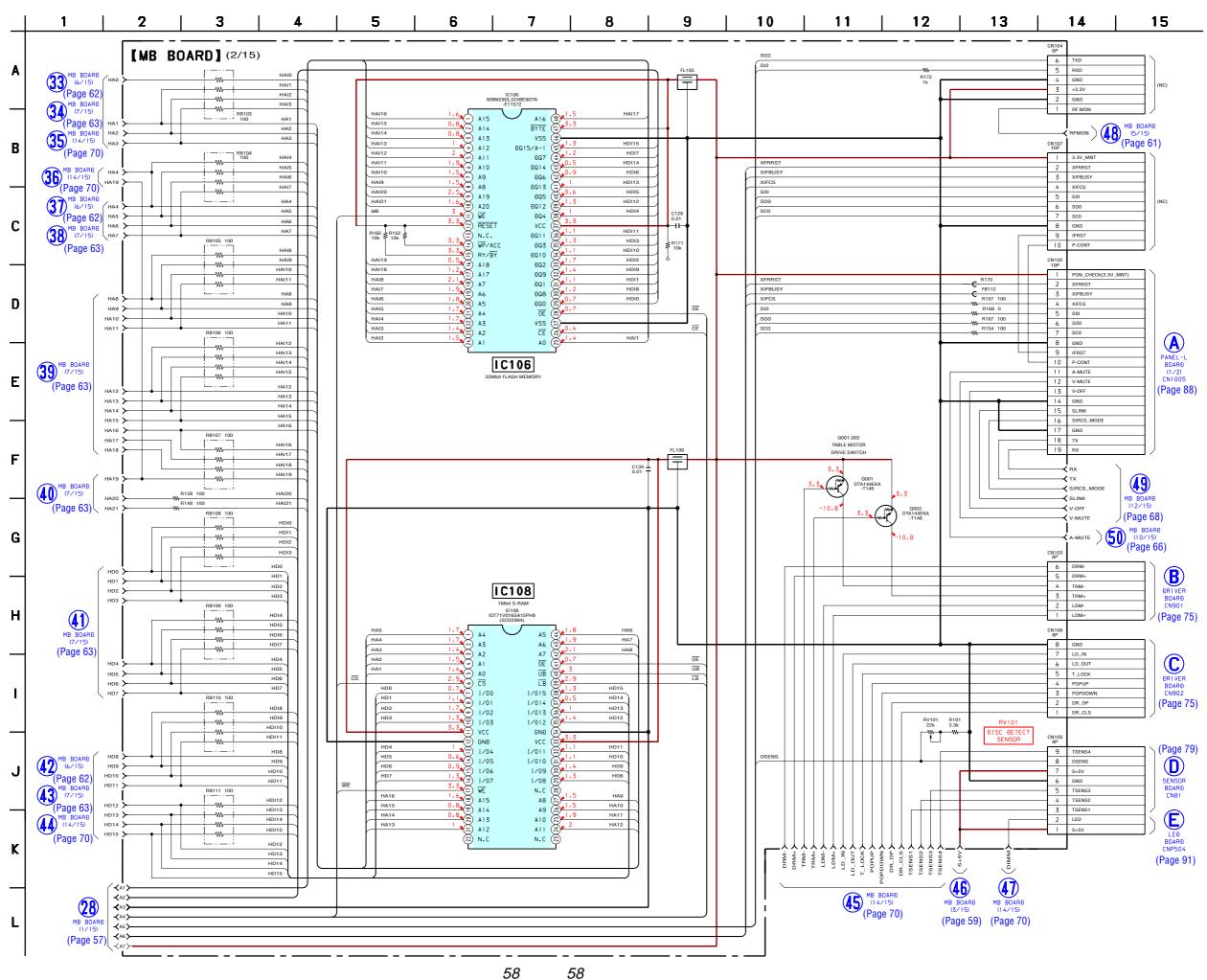
#### • Circuit Boards Location



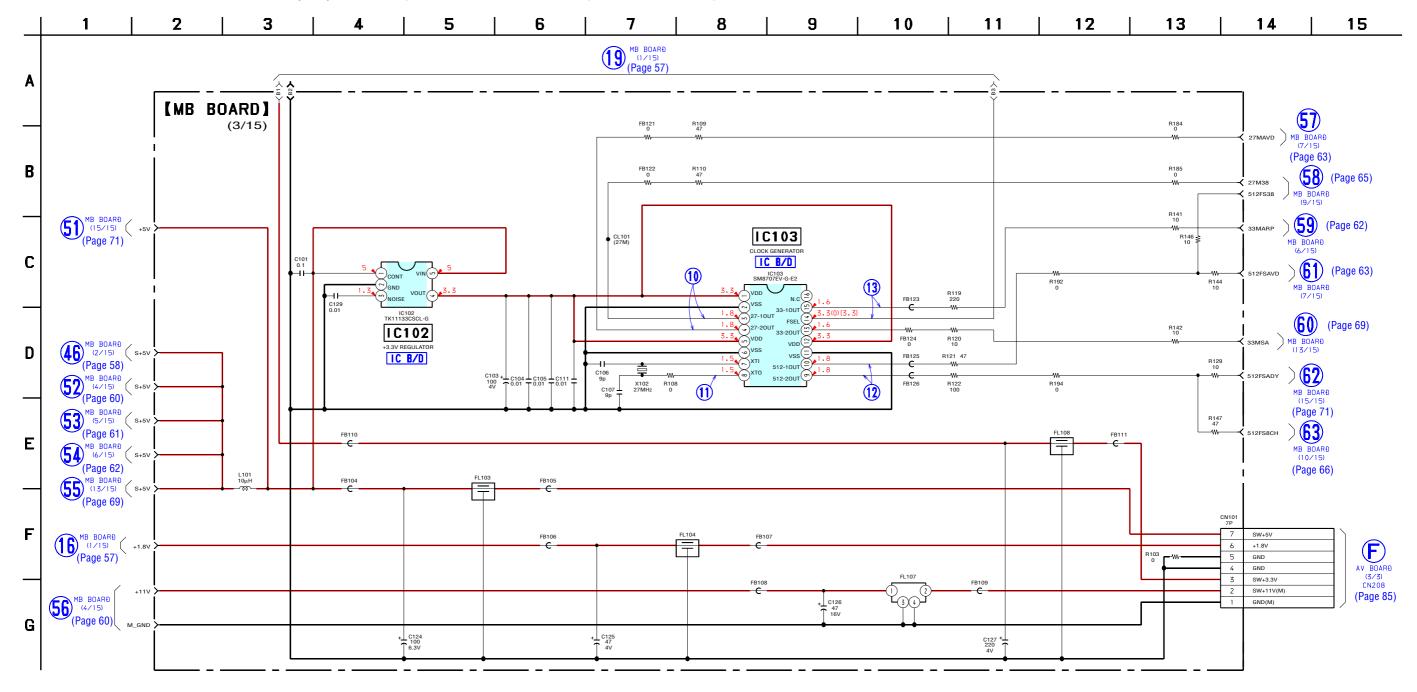




### 7-8. SCHEMATIC DIAGRAM - MB Board (2/15) -

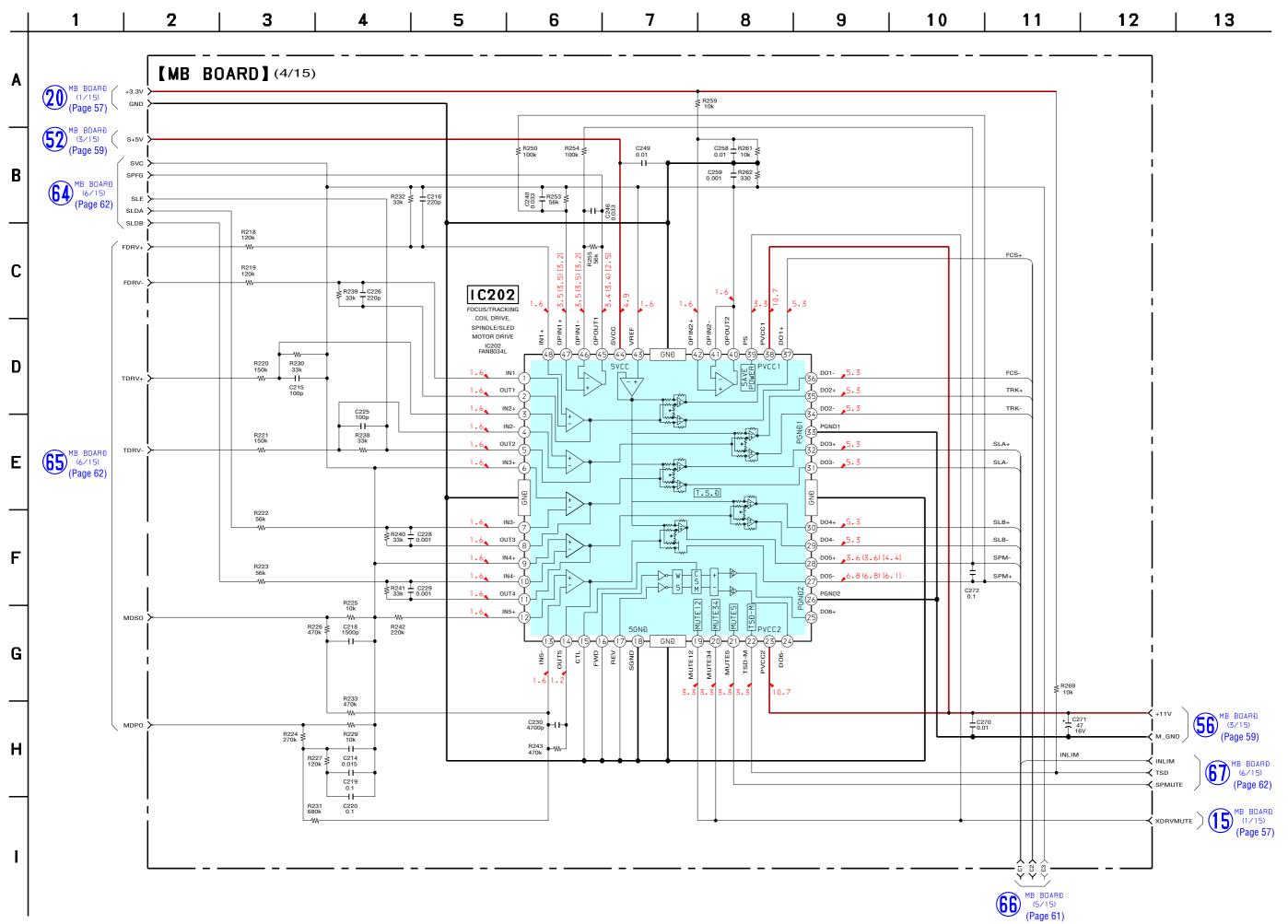


7-9. SCHEMATIC DIAGRAM – MB Board (3/15) – • See page 94 for Waveforms. • See page 98 for IC Block Diagrams.



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7-10. SCHEMATIC DIAGRAM - MB Board (4/15) -



7-11. SCHEMATIC DIAGRAM - MB Board (5/15) - • See page 94 for Waveforms. 2 6 7 9 13 1 3 5 8 10 11 12 14 15 MB BOARD (4/15) (Page 60) Α [MB BOARD] (5/15) ) **21** MB BOARD (1/15) (Page 57) C263 10 16V T+ ⊥C248 ⊤ 0.1 s+5v ) (53) MB BOARÐ (3/15) (Page 59) В C262 1 C252 0.1 R211 100 C241 0.1 C251 0.1 C N.C GND SDEN (48) 0 SCLK (47) 3.3 DVD\_LD SSCK D N.C SWÐ 46 3.3 MB BOARD (6/15) (Page 62) CD\_LD 3 2 SRÐ (45) GND MON (44) 0 TPH (43) 3.5  $\triangle$ VCC C210 2200p C211 2200p C212 2200p C213 2200p 7) A2 IC201 OPTICAL GAIN\_SWITCH C265 0.1 R273 0 TZIN 40 2.5 VCI 39 1.6 DFT 38 0 PICK-UP Ε MB BOARD (6/15) (Page 62) **BLOCK ≺** TZC (KHM-290AAA) TZC (37) 3.1 (3 -✓ SSDFCTI PI (36) ≺ ss\_mon C264 0.47 PII (35) → INTR BYP2 (34) 2. MIRR N.C N.C F FCS+ FCS-FCS-TRK+ TRK+ TRK-R263 2.2M R264 100k C254 4700p C256 0.047 G MB BOARD (1/15) (Page 57) Н R274 R234 R236 R236 R256 R251 \$ + 1 C242 47 47 47 € 21 SLA+ SLA-SLA-SLB-4.9 (4.9) [3.7] SLB-SLB+ SLB+ L201 47μH 2SB1132-T100-QR LIMIT SW A LIMIT SW B AUTOMATIC POWER CONTROL INLIM + C238 L202 10 47μH + C221 C235 I LIMIT SW C SPM-SPM-SPM+ SPM+ The components identified by mark  ${\it \triangle}$  or dotted Les composants identifiés par une marque 🛆 sont line with mark  $\triangle$  are critical for safety. critiques pour la sécurité. Ne les remplacer que Replace only with part number specified. par une pièce portant le numéro spécifié.

7-12. SCHEMATIC DIAGRAM - MB Board (6/15) - • See page 94 for Waveforms. • See page 98 for IC Block Diagram. 9 2 3 4 5 6 7 8 10 11 12 13 14 15 16 (Page 65) (Page 65) (Page 63) **18** (Page 63) **76** (Page 69) MB BOARÐ MB BOARÐ (7/15) (13/15) MB BOARD MB BOARD (7/15) (13/15) [MB BOARD] (6/15) RAMDO 2.6 | V8B
RAMDO 2.6 | V00
RAMD1 2.6 | V00
RAMD2 2.8 | V102
RAMD3 2.8 | V103
RAMD4 2.8 | V8B
RAMD5 3.1 | V104
RAMD5 3.1 | V105
RAMD6 2.6 | V105
RAMD7 2.6 | V107
RAMD7 2.6 | V107
RAMD7 2.6 | V8D
RAMD7 2.6 | V107
RAMD7 2.6 | V8D
RAMD7 GND 2.8 RAMD15
1/015 2.8 RAMD14
1/014 2.8 RAMD13 SDEF XSAK XSHD SDCK XSRQ 1/013 (\$2.8 RAMD13 1/012 (\$2.8 RAMD12 (Page 59) **12** 1/011 2.8 RAMD11 1/010 2.8 RAMD10 ₹ R337 10k 1/09 2.8 RAMD9 1/08 2.7 RAMD8 (Page 69) N.C (\$) IC303 22 MB BOARE (1/15) **\*** © N.C N.C 2.9 UCAS 2.9 (Page 57) PRAS PRAS PRAS PRAS N. C RAS N. C D C309 0.01 0.3 RAMA9 IC302 A9 0.3 RAMA8
A7 0.3 RAMA7
A6 0.3 RAMA6 Ť 0.5 (a) A0 0.3 (b) A1 0.3 (c) A1 0.4 (c) A2 0.4 (c) A3 3.3 (c) VDD +3.3V REGULATO 68 MB BOARÐ (RF+ A5 © 0.3 RAMA5
A4 0.3 RAMA4 VĐĐS.3V (2.6 RAMD7 MĐC (2.2.6 RAMD8 MĐS (2.2.6 RAMD8 MĐS (2.3.1 RAMD8 MĐS (2.2.8 RAMD8 MĐS (2.2.8 RAMD8 MĐS (2.2.6 RAMD2 MĐS (2.2.6 RAMD9 MĐS (2.2.6 RAMD9 MĐS (2.2.6 RAMD9 MĐS (2.2.6 RAMD9 © VSSAO RAMA3 1.7 P VC0 0.7 R1 2.4 RP R2 R332 2200 GNÐ 🔻 R333 150k ₹R311 100 (Page 61) 3 (a) VDBA0 3.3V
(b) VSSA1
(c) VSSA1
(c) VSSA1
(c) INM
(c) INM .3 © VĐĐAO 3.3V C332 C333 0.01 0.01 → GND → +1.8V MB BOARD (1/15) (Page 57 +3.3V (Page 57) C312 0.068 W R329 2200 W R330 2200 V55 (E) VĐĐ1.8V (☆) 2.5 XRST MĐPO (2.9 XSDPCS YY14 R312 220 HD9 > XRAS ( ) YY13 MB BOARD (1/15) (Page 57) HD10 > XCAS (R) YY12 YY11 YY10 3.3 0 V55A2 VĐĐA2 3.3V BIAS MB BOARD (2/15) (Page 58) HD12 > XWAT (E) XKATWT xcs (a) 3.3 HD13 > XARPCS YY9 VREF VSSĐO XARPIT HD14 YY8 3.3 VSSB0
2.6 VBB0 3.3V
VRT
VRT
3.3 PRINI
3.3 VBB3 3.3V
VSSA3
0.7 VSSA3 XRĐ (Ấ) **(5)** XWR (₹) XWRH IC301 vss (≅ YY4 C304 T0.01 C305 4700p MIRR > TESTK3 YY3 TZC > НĖ PĐM2 (≅) MDPO YY2 vĐĐ3.3V ⊕ MB BOARD SIGDET > ✓ MDSO R359 10k (6) C328 0.7 VRB FDRV-TESTK2 PAM1 ✓ FDRV+ 3.3 VĐĐĐI 3.3V VSSĐ2 (Page 60) TESTK1 (≅ ≺ TDRV-3.3 V VBB2 3.3V VRBA VSSA4
3.3 N VBB4 3.3V VBB4 3.3V VBB4 3.3V ABC0
1.6 N ABC1
2 ABC2
1.6 N ABC3
2.3 ABC4
4.6 N ABC5
ABC5
ABC5
ABC6
ABC7
VSSA5 VĐĐĐ2 3.3V C329 0.01 vss (≅ TESTKO P **(7**) (Page 61 **(8)** C319 0.01 HINT (=) VĐĐ1.8V (=) A7 (F) MB\_BOARD (2/15) (Page 58) R314 470 R315 470 **≺** HA5 R316 4700 SLE >-**≺** HA4 / **64 ≺** наз \ MB BOARD (2/15) SLDA MB BOARE (4/15) SLDB > (Page 58) A0 ~ svc > < HA0 / (Page 60) C316 4700p  $\underbrace{\textbf{29}^{\text{MB BOARD}}_{\text{(1/15)}}}_{\text{(Page 57)}}^{\text{MB BOARD}} \Big( \times \text{FRRST}$ ≺ ssck (Page 61) MB BOARD (7/15) (TMS TCK Page 63) TMS C339 0.01 тск MB BOARD (4/15) C344 0.01 MB BOARD (14/15) ( TDIKT (Page 70) INLIM (Page 60) TDIKT CDDOUT MB BOARD (3/15) (33MARE **81**) (Page 59) (Page 63) **15** I C337 MB BOARĐ (13/15) (Page 69)

62

62

88 88 88

**(** 

7-14. SCHEMATIC DIAGRAM - MB Board (8/15) -9 5 6 2 3 4 7 8 10 11 [MB BOARD] (8/15) Α IC404 3.3 — VCC

1.6(2.2)[2.2] — 900

1.8(2.2)[2.2] — 901

VSS0

1.7(2.2)[2.2] — 903

3.3 — VCCQ

1.8(2.3)[2.3] — 904

1.8(2.8)[2.8] — 905

1.7(2)[2] — 906

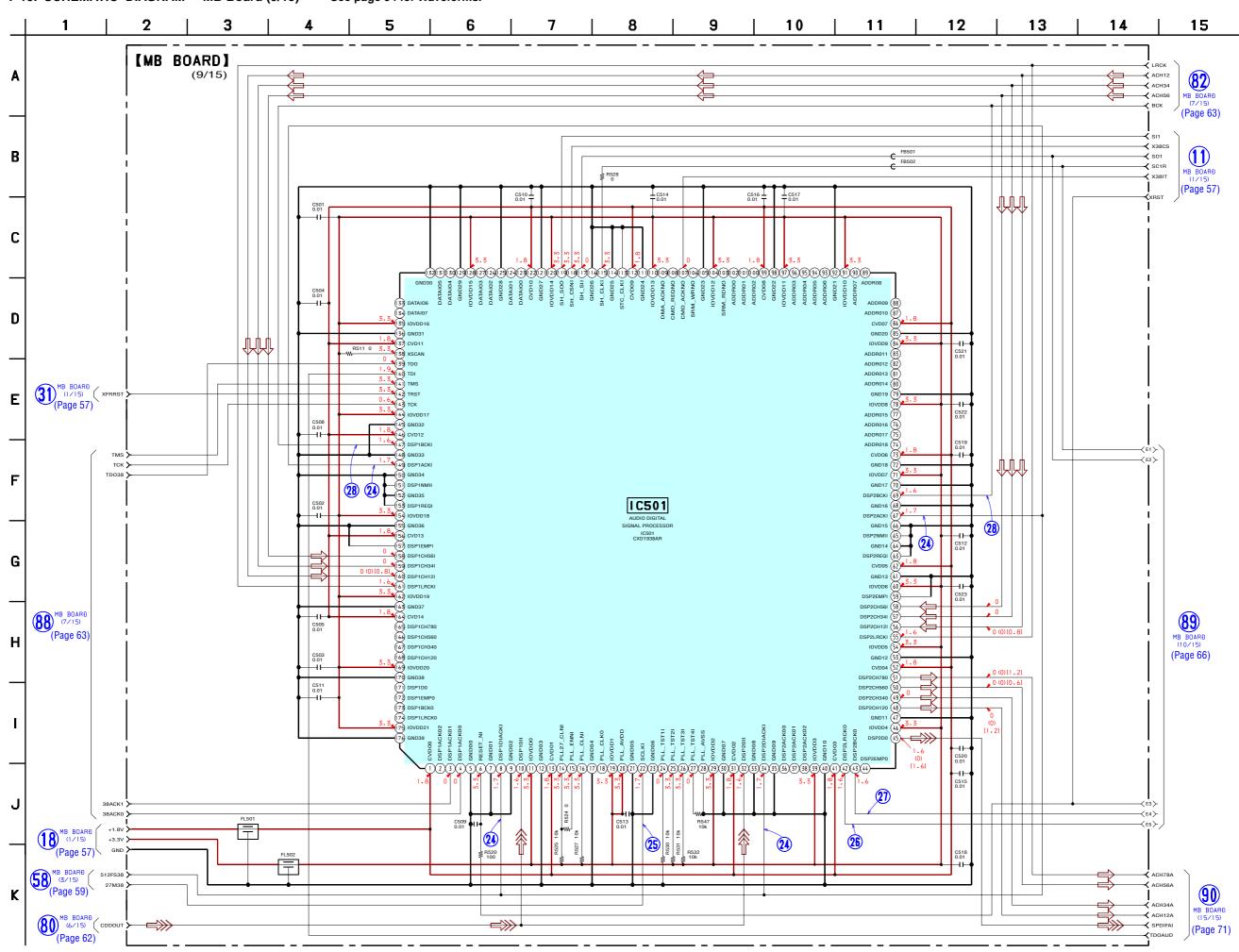
2(1.4)[1.4] — 907

3.3 — VCCQ VSS 🕞 ADDT15 ADDT0 C438 0.01 ĐQ15 (\$) ADDT1 ĐQ14 (♀)⁴ V550 🕏 ADDT2 .8(2.3)[2.3] ADDT13 В ĐQ13 (\$) D012 (2.6) [2.6] ADDT12 ADDT3 vcco (3, 3, 3 Đ011 (2.3) [2.3] ADDT11 ADDT4 ĐQ10 (2.1)[2.1] ADDT5 ADDT10 VSSQ 🕏 009 1.8(2.2)[2.2] ADDT9 ADDT6 1.5(2.2)[2.2] ADDT8 C vcco (ജ) WW1 N.C (5) WW2 ww8 WW3 CLK (5) 1.3 WW7 WW4 CKE 3.3 WW6 N.C & 0.1 A9 & 0.1 A8 & 1.7 WW5 ADAD11 ADAD9 ADAD10 ADAD8 C440 0.01 ADAD0 ADAD7 D A7 (S) A6 (202.9) [2.9] ADAD1 ADAD6 ADAD2 ADAD5 A5 (≅) ADAD3 ADAD4 C441 0.01 A4 (\(\sigma\) VSS (≈ (Page 57) Ε |I C405 6Mbit SD-1. IC405 GLT5160L16P -7TCT vss 🕏 ADDTO ADDT15 ĐQ15 (\$) ADDT1 F ĐQ14 (\$\tilde{\pi}\) VSSQ (\$) ADDT2 .8(2.3)[2.3] ADDT13 D012 1.8(2.6)[2.6] ADDT12 ADDT3 C448 0.01 VCC0 3.3 Đ011 (2.3) [2.3] ADDT11 ADDT4 Đ010 (\$\frac{1(2.1)[2.1]}{2} ADDT5 ADDT10 MB BOARE 1.8(2.2)[2.2] ADDT9 (7/15)ADDT6 G 008 (2.2) (2.2) (Page 63) ADDT7 vcco (ജ) WW1 2.9 WE WE CAS RAS N.C 🕞 WW2 ĐQMU (ജ) WW3 WW7 CLK (K) CKE \$3.3 N.C \$20.1 WW4 WW6 WW9 2.9 ES 0.8 (0.3) [0.3] (0.8) A1 (1.8) [1.8] (0.8) A2 (1.5) A3 (2.8) VCC ADAD11 Н A8 0.1 A7 0.1 ADAD10 ADAD8 ADAD0 ADAD7 A6 (2) 2(2.9) [2.9] ADAD1 ADAD6 ADAD2 ADAD5 A5 (≋)▲ A4 (\(\sigma\) VSS (≈)

64

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7-15. SCHEMATIC DIAGRAM – MB Board (9/15) – • See page 94 for Waveforms.



7-16. SCHEMATIC DIAGRAM – MB Board (10/15) – • See page 94 for Waveforms. • See page 98 for IC Block Diagram. 8 1 2 3 6 7 9 10 11 12 13 14 MB BOARD (3/15) (Page 59) [MB BOARD] (10/15)T+ 6.3V C528 0.47 T D503 DAP202K-T -146 CN501 27P ٔلِیا 2 MUTE\_L 3 MUTE B D501 DAP202K-T -146 **29** 4 A-MUTE DZFL1 ALT+ 30 6 ALT+ D502 DAP202K-T -146 7 ART+ ART-ART-LOUT3-10 LOUT3-IC B/D <del>|</del>|₩ LOUT3+ 11 LOUT3+ AV BOARĐ (2/3) CN203 ROUT3+ 12 ROUT3+ (FR) ROUT1+ (8) 2.4
ROUT1- (7) 2.4 ROUT1+ ROUT3-13 поитз-ROUT1-14 A\_GND 0 (0) (0, 6) (15) SDT12 ROUT1- (4)

2 (1)
(SL)

LOUT2- (4)

2 . 4

LOUT2- (4)

2 . 4 LOUT2+ LOUT2-15 LOUT2-LOUT2-LOUT2+ (Page 84) 16 LOUT2+ ROUT2+ ROUT2+ IC502 17 ROUT2+ 31 32 ROUT2-ROUT2--(18) I2C 18 ROUT2-(FC) LOUT3+ 47 2.4 LOUT3- 41 2.4 3.3 (19) CCLK/SCL LOUT3+ D 19 A\_GND 0 (20) CDTVSDA 3.3 (21) CSNVCAD1 1.6 (21) DGLK 0(1.6)[0] (22) DGLK 0(1.6)[0] (23) DSD4 LOUT3-LOUT1-<E2 > 20 LOUT1-ROUT3+ LOUT1+ ROUT3+ (40) 2.4 ROUT3- (40) 2 . 4 ROUT3-ROUT3- 33) 2 . 4 R588 0 ALT+ LOUT4+ 38 2 . 4 R589 0 ALT-21 LOUT1+ R509 0 W ROUT1+ 22 ROUT1+ ROUT1-23 ROUT1-LOUT4- (37) 2.4 -w-= 24 A+5V 25 AGND 26 GND 25 26 27 28 29 30 31 32 33 34 35 36 27 SPDIF ⊥ C525 T 0.47 GND MB BOARÐ (1/15) (Page 57) (Page 65) ₩= LRCKA G → DSALO DSARO ⇒ ≺ DSARO DSACO → DSACO DSASWO ☐ ✓ DSASWO DSALSO <E3> → ✓ DSALSO DSARSO 91 MB BOARD (15/15) (Page 71) <E4>≻ ☐ ✓ DSARSO Н ACH56AO \_\_\_\_\_\_ ACH34AO ≺ACH12AO  $\Leftrightarrow$ ФВСК ) (13/15) (Date of MB BUAND (1/15) (Page 57)

7-17. SCHEMATIC DIAGRAM - MB Board (11/15) - • See page 94 for Waveforms. • See page 98 for IC Block Diagram. 5 6 7 8 9 1 2 3 10 11 12 13 14 15 16 [MB BOARD] (11/15) **93** Das Das Α MB BOARD SDA SCL (Page 68) **(6)** В MB BOARÐ (XRST (Page 57) 14) C 0VĐĐ 1.5 CLKI CLKI PLL\_TEST PLL\_EN OVĐĐ ( OVSS OTEST4 OTEST3 C618 T 27MCLF WE O R639 0 **83** CAS CKE D 16 DVD1 > MB BOARE (7/15) RAS (S DVD2 > ovss (s (Page 63) DVD4 > MA9 SMA11 SMAN A11 DVD6 > MA10 (3) Ε OVĐĐ (E) IC602 CVSS (S IVSS 0VSS MA7 MA0 (8) 0.2 IC603 MA6 MAI F ovss 🐷 OVĐĐ 📸 MA5 (E) MA2 (S) 0. MA4 (=) -(6,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50) MA3 (2) 0V55 (F OVĐĐ 😤 G MÐ16 (L) MÐ17 (P) MÐ18 (V) MÐ19 (V) ĐĐ TEST12
TEST12
TEST3
TEST3
TO 80
TO 8 R605 L C623 T 0.1 47 T 2.2 Н I C601 +2.5V REGULATOR
R614
0
R614 (15) R618 C615 \_\_\_\_ 0.01 \_\_\_\_  $\Rightarrow$ 24 (Page 68) (Page 57)

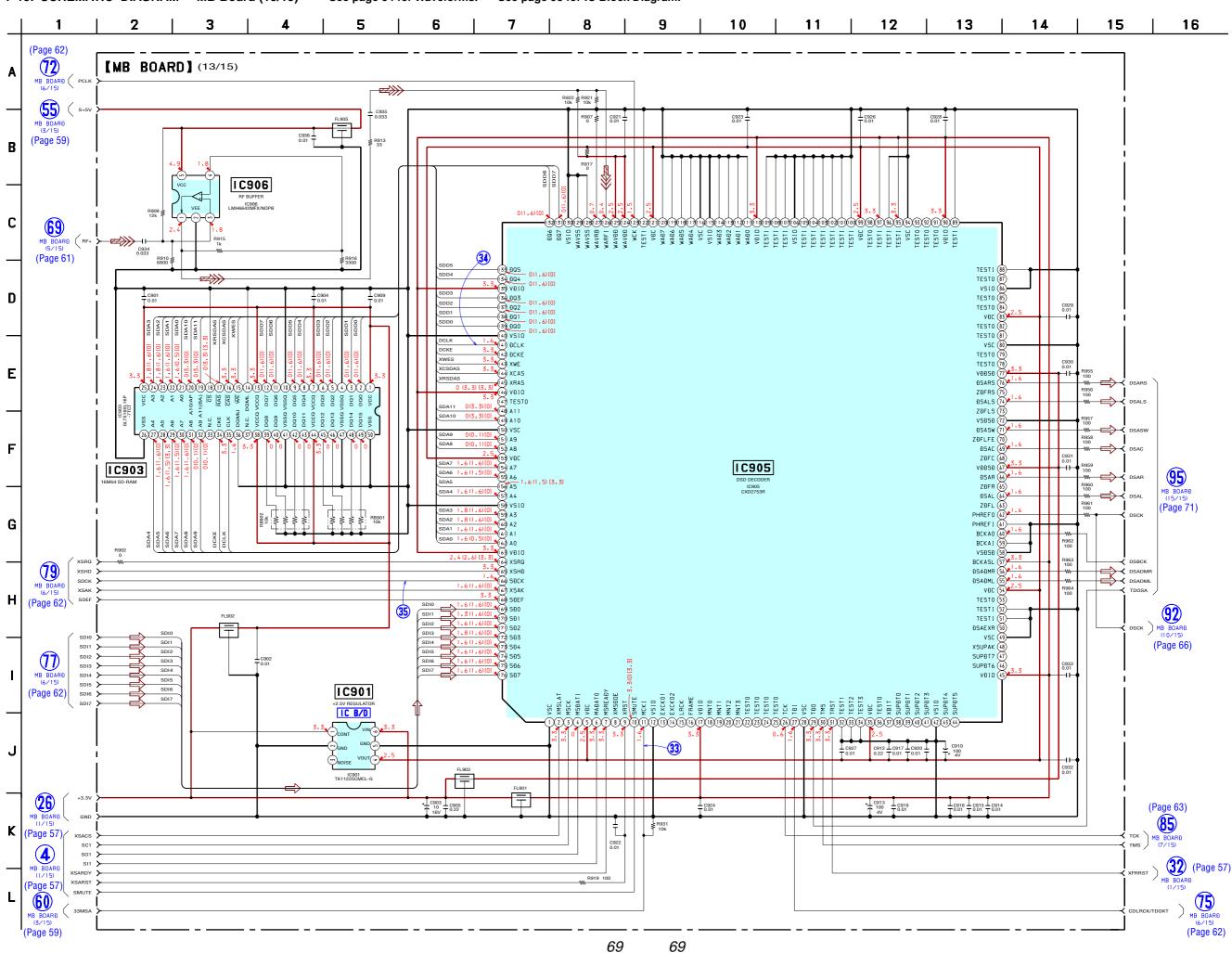
7-18. SCHEMATIC DIAGRAM - MB Board (12/15) - • See page 94 for Waveforms. • See page 98 for IC Block Diagrams. 3 5 6 7 8 9 10 11 12 13 14 15 [MB BOARD] (12/15) ✓ V-MUTE MB BOARD (2/15) (Page 58) **≺** RX **≺** тх ✓ SLINK C636 I C634 I ≺ SIRCS MODE RX GND S-LINK SIRCS\_MODE GND GND WIDE IPSW AV BOARD (1/3) CN202 (Page 83) V-OFF V-MUTE GND **>>>** CR/B GND IC B/D **→**>>>  $\supset$  $\rightarrow$ .5 23 22 21 1 . 2 4 P\_Y(2)/SCANEN  $\Longrightarrow$ C631 0.1 1.2 5 P\_Y(3)/TESTMODE

1.2 6 P\_Y(4)

1.2 7 P\_Y(5)

2(2.6) [2.6] 8 P\_Y(6) IC604 IC604 ADV7310KST R676 2.7k C632 0.1 EXT\_LF 34 1.1
RESET8 33 3.3 R677 100 20 (19 (18) M R679 M R680 M R681 M R682 M R683 C637 0.001 17 I C605 SCL SDA MB BOARD (11/15) (Page 67) 94 MB BOARE (11/15) IC B/D 25 MB BOARD (1/15) (Page 57) (Page 67) MB BOARD (1/15) (Page 57) -**√** SDA

7-19. SCHEMATIC DIAGRAM – MB Board (13/15) – • See page 94 for Waveforms. • See page 98 for IC Block Diagram.



7-20. SCHEMATIC DIAGRAM - MB Board (14/15) - • See page 94 for Waveform. 5 6 7 8 9 12 15 2 3 4 10 11 13 14 74 47 [MB BOARD] (14/15) MB BOARD (6/15) (Page 62) 3.3 (Page 58) Q701 DTC114EKA-T146 LED DRIVE 96 MB BOARD (15/15) (Page 71) 3 GND В 86 C711 T0.01 1 C712 1 C713 T0.01 ⊥C709 ⊤0.01 (Page 63) 35 MB BOARĐ (2/15) HA1 HA2 наз TRM-(Page 58) DRM+ ABANDBAAT

TESTOR

TES C DRM+ 36 MB BOARD (HA4 (2/15) DRM-≺ DRM-HA4 LDM+ 0 CLE XCE 2 3.3

0 ALE XRE 2 3.3

XRE 2 3.3

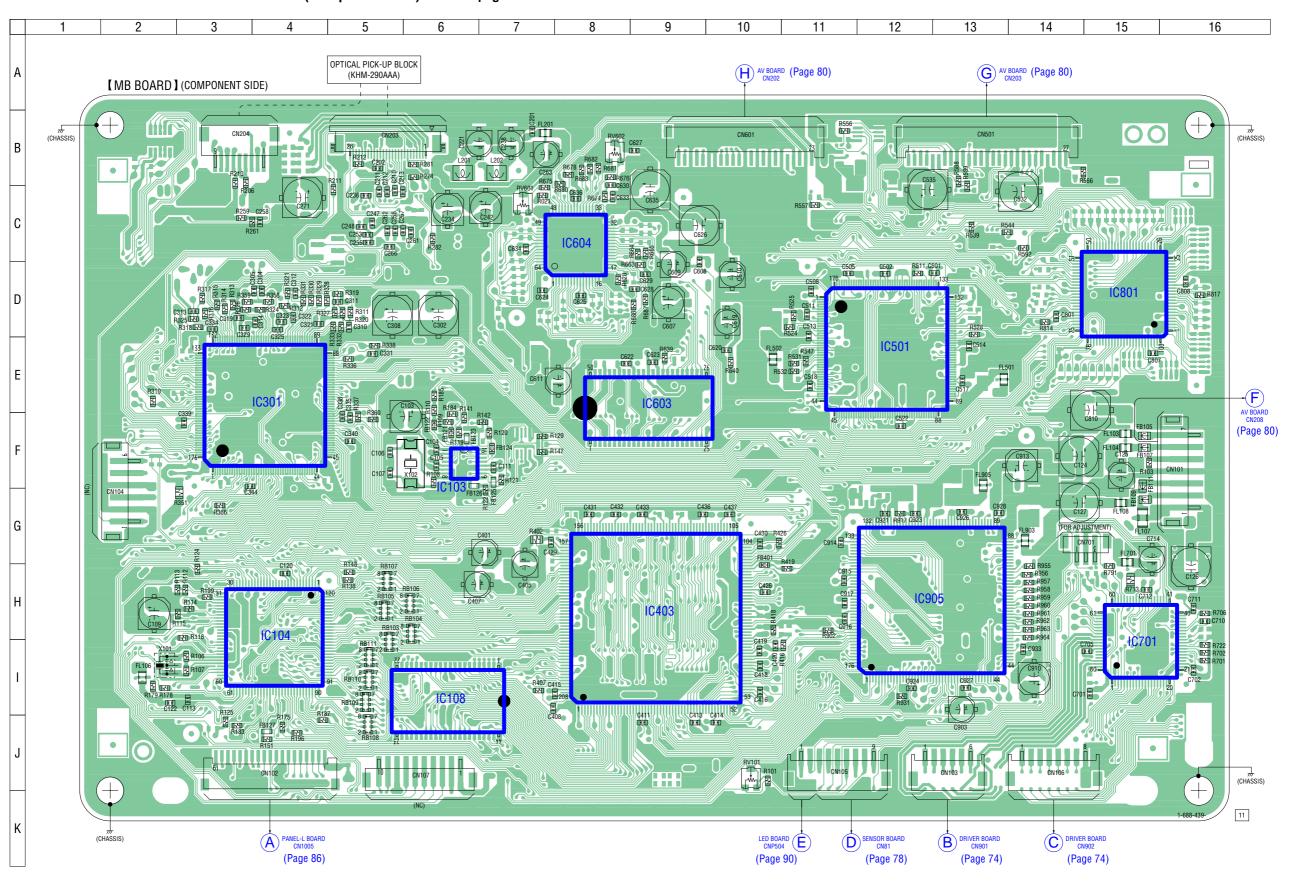
R/B (7) XWE
R/B (7) ✓ LDM+ HA19 LDM-✓ LDM-NFCLE NFCE TSFNS1 TSENS1 NFALE (Page 58) NFRE TSENS2 ✓ TSENS2 NFWE NFBSY TSENS3 √ TSENS3 3.3 S XWP HD14 NFTEST TSENS4 R791 100 ≺ TSENS4 HD9 HD13 LD\_IN D XAĐYCS (ES HD9 > ✓ LD\_IN (Page 58) HD10 HD12 LD\_OUT MB BOARÐ (2/15) HD10 (NC) (3) ✓ LD\_OUT HD11 HD11 NFTEST T\_LOCK HD11 > NFTEST (S) T\_LOCK HD12 HD10 NFWE POPUP HD12 > NFWE (₺) **≺** POPUP POPDOWN DR\_OP HD13 HD9 NFRE HD13 > NFRE (E) POPDOW (Page 58) HD14 > HD14 HD8 | I C 7 0 1 VSS (S ≺ DR\_OP HD15 HA19 NFWP DR\_CLS 1.7 = HA19 1.7 = HA4 1.4 = VSS 1.5 = HA2 1.4 = HA2 1.4 = HA0 3.5 = XGAIT 0.7 = XWR 0.7 = XRR 3.5 = XRB NFWP (5) DR\_CLS MECHANISM CONTROLLER HA4 NFALE NFALE (S) NFCLE NFCLE (\$) NFCE NFCE HA2 AÐVÐÐ3 (ਙ) HA1 NFBSY NFBUSY (\$) TĐI 🕏 HD9 HD14 HD10 HD13 TCK (\$) 0.6 HD11 HD12 vss (\$ AOBBORN MOBBUR A MOBB XGACS & 🕱 vss 🛚 vcco 🛱 IC702 K9F6408U0C-TCB0T IC702 27) MB BOARĐ (1/15) 〒 C714 + 47 4V C702 → R738 ≥ 0.01 → 10k ≥ C707 T G (Page 57) TSENS4 3.3 m 4 m m 4 3.3 -D1 (-D1 IC703 \* \* \* 77 02 77 02 77 02 77 22 77 22 CPUCK ≺ xrst 10 ✓ XFRRST ≺ XRD ≺ xwrh ≺ xgacs (Page 57) ✓ XGAIT

7-21. SCHEMATIC DIAGRAM - MB Board (15/15) - • See page 94 for Waveforms. • See page 98 for IC Block Diagram. 6 8 9 11 12 1 2 3 4 5 7 10 13 14 15 [MB BOARD] (15/15) ≺ вска Α ≺ SPDIFAO ✓ ACH12AO ✓ ACH34AO ✓ ACH56AO ✓ ACH78AO ✓ DSADMLO ✓ DSADMRO В ✓ DSALO → DSARO ✓ DSACO ✓ DSASWO → DSALSO ✓ DSARSO C IC802 C808 0.01 D 1.7(2.6)[2.4] 001 ĐQ14 (2.1) [2.6] ADD14 **87**) √y vss0 vsso (\$)-ĐQ13 (\$\frac{1.7(2.6)[2.6]}{.} ADD13 2. 4] (S) ĐQ2 0012 1.7(2.1)[2.5] ADD12 2.5 DQ3 (Page 63) 3.3 (F) TRST 3.3 (F) TMS 0.6 (F) TCK 3.3 (F) TDI A8 (2.8 A9 (2.8 vcco vcco vcco 🖘 .7 (2.6) [2.3] © ĐQ4 ADA9 ADD4 ADD11 ĐQ11 😭 🛂 ADD5 [2.4] o ĐQ5 E ĐQ10 (\(\frac{1}{2}\) ADA3 5.3 (a) TBI
1.9 (a) TBO
(b) FEST2
(c) SPOIFI
1.6 (a) BCKI
1.6 (a) BCKI
3.3 (a) VBO A3 (\approx) 3 (=) vsso vssa (₹)-ADA2 (2.1)[2.5] ADD9 2.6 (=) ĐQ6 ĐQ9 (ਵ) DO8 (2.6) [2.5] ADD8 ADA1 ADD7 1] (≃) Đ07 3.3 © VCCO VCCO © 3.3 © VCCO VCCO © 3.3 © WE DOMU © 3.1 © CAS CLK © 3.1 © CAS CKE © 3.3 © CS RAS CKE 1.6 (0)[1.6] ADA0 SPDIFAI > ADA10 ADA11 90 MB BOARE (9/15) 38 XADCAS ADCLK 3.3 3 BCK I 3.3 3 V8B 3 V8B 2 DLBRI 0 (0) [0.6] 0 SLSRI 0 (0) [1.2] 40 1.7 (2) TESTS 3 CLK512 **39** ADCKE XADRAS ADCKE F R817 0 ADCLK XADCS IC801 XADCS ADA11 ADA9 (Page 65) аснтва 3 (2) A11 (BA) A9 (3) 2.8 (3) A10/AP A8 (3) 2.8 (3) A10 A7 (3) 3.3 (3) A1 A6 (3) 4.2 A5 (3) A2 A5 (3) A3 A4 (3) 3.3 (3) A3 A4 (3) 4.3 (4) A5 (4) A5 (4) A5 (4) A5 (5) A5 (5) A5 (5) A5 (6) A5 ( PROCESSOR XADRAS ADA10 ADA8 ACH56A XADCAS ADA0 ADA7 (Page 59) ACH34A > XADWES ADA1 ADA6 ADA5 ADA2 2.5(2.1)[2.1] ADD7 ADA3 ADA4 MB BOARÐ (3/15) 5.3 © YSS 5.3 © XRST 5.3 © YBD 3.3 © SCLK 3.3 © XCS G ADD6 5 MB BOARÐ (1/15) 1.7(2.1)[2.4] ADD5 R814 100 XRST > Đ5 🕝-1.7(2.6)[2.3] ADD4 Đ4 (-) 2.5 SC1R IC803 ADD3 SO1 > 0 3 51 2.5(2.1)[2.4] ADD2 Ð2 🔄 (Page 57) 1.7(2.6)[2.4] ADD1 IC B/D 96 MB BOARÐ (14/15) IC803 TK11133CSCL-G C802 0.01 C803 0.01 (Page 70) .7(2.6)[2.6] (Page 59) C810 + 100 6.3V C807 1 C806 1 C805 1 T C817 T TDOSA DSCK > (Page 57) DSBCK 41 42 DSADML > DSADMR > MB BOARÐ (13/15) DSAL > DSAR > (Page 69) \_=\_ DSAC > DSASW > DSALS >

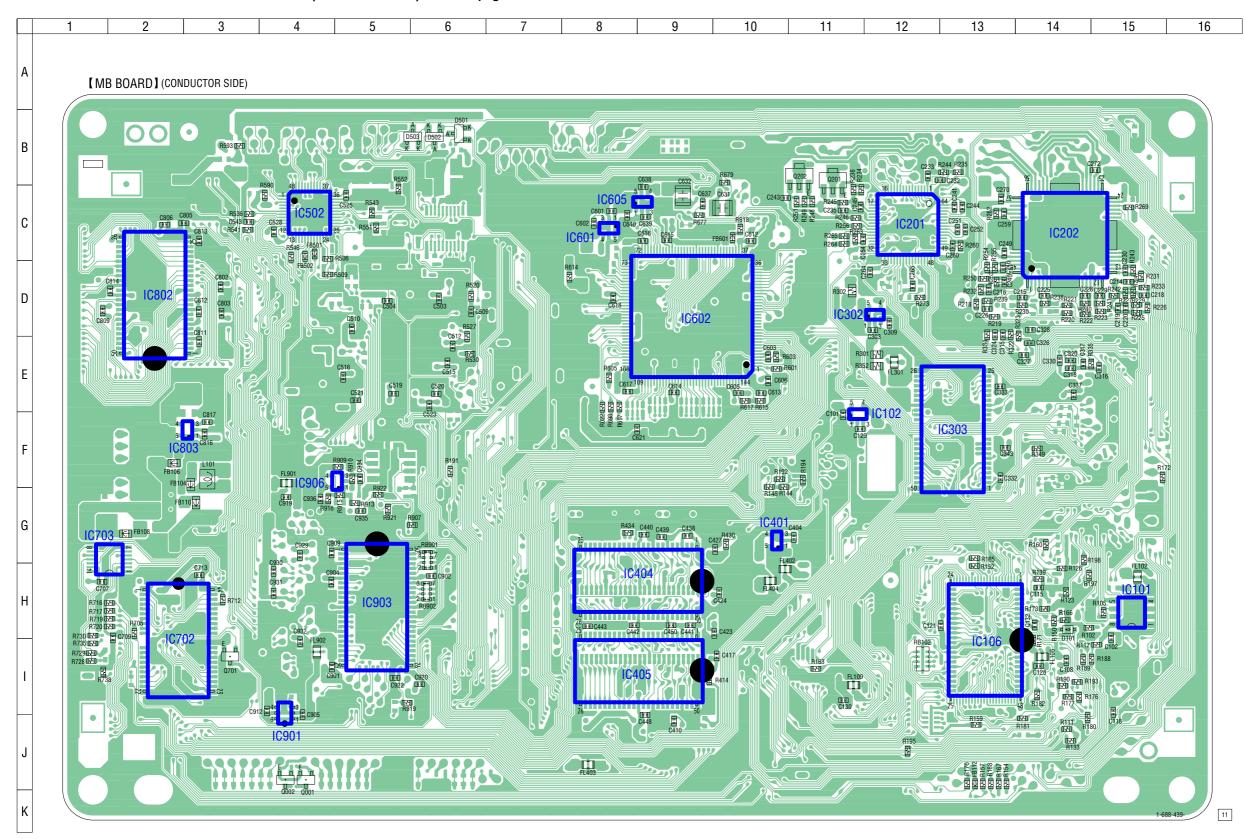
### 

#### • Semiconductor Location

Ref. No.	Location
IC103	F-6
IC104	H-4
IC108	I-6
IC301	E-4
IC403	H-9
IC501	E-12
IC603	E-9
IC604	C-8
IC701	I-15
IC801	D-15
IC905	H-12

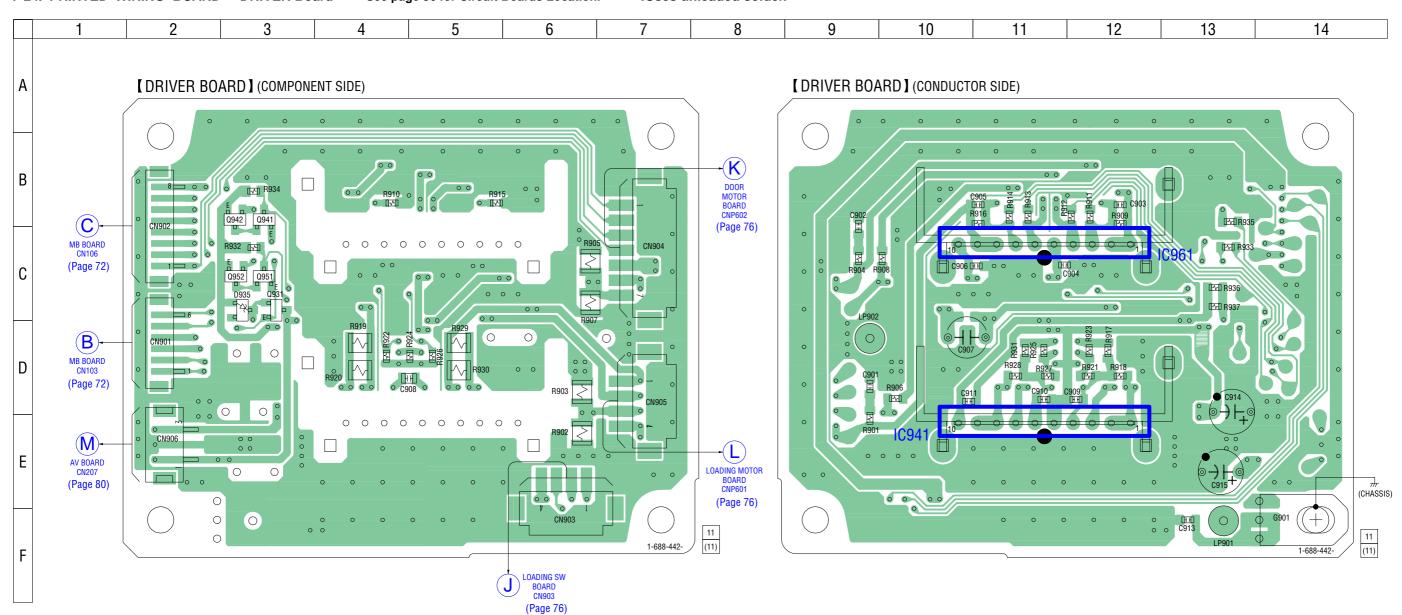


# 7-23. PRINTED WIRING BOARD – MB Board (Conductor Side) – • See page 56 for Circuit Boards Location.



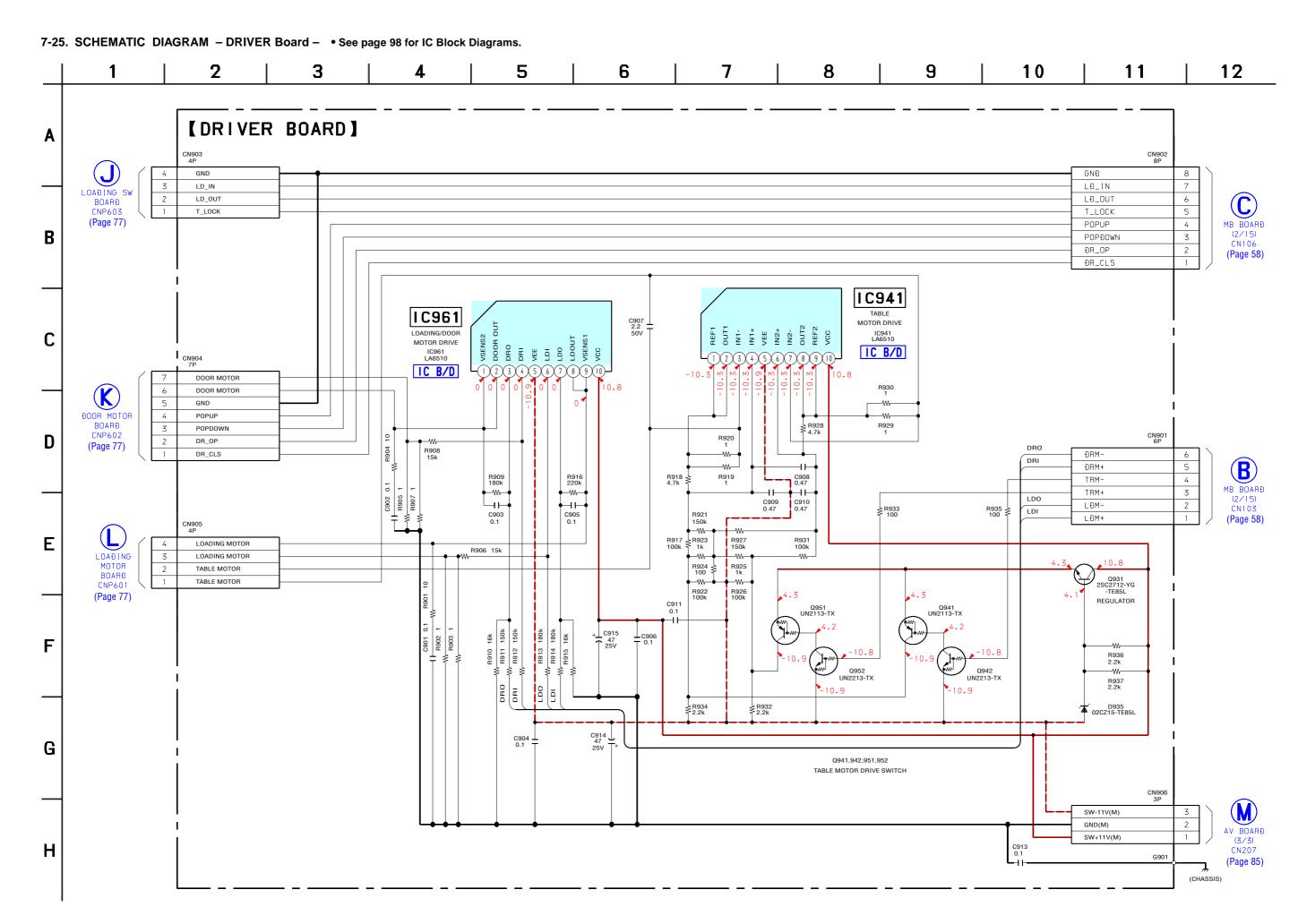
#### • Semiconductor Location

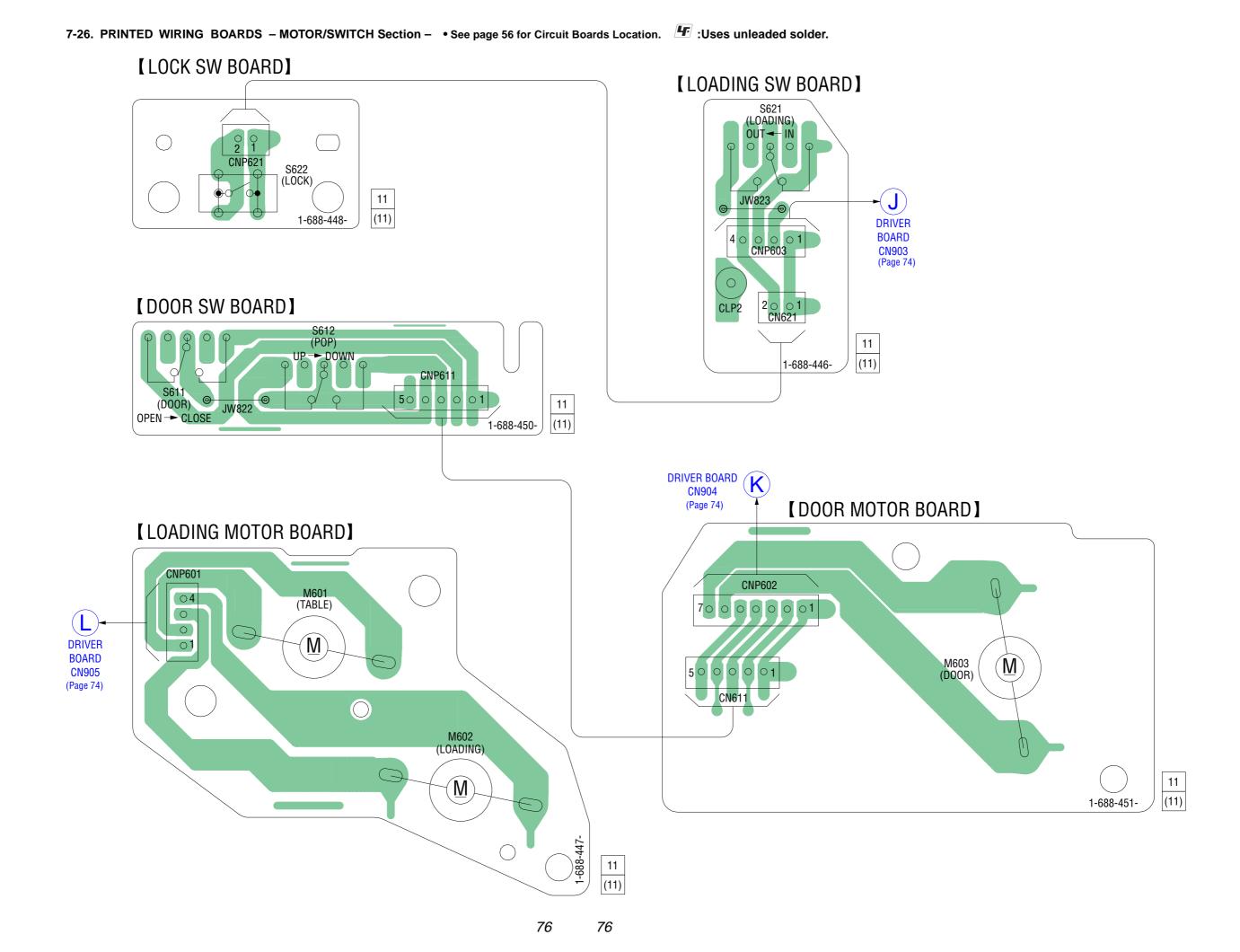
Def Ne	1 +
Ref. No.	Location
D101	H-14
D501	B-6
D502	B-6
D503	B-6
IC101	H-15
IC102	F-11
IC106	i-13
IC201	C-12
IC202	C-14
IC302	D-12
IC303	F-13
IC401	G-10
IC404	H-9
IC405	I-9
IC502 IC601	C-4 C-8
1C601	D-9
IC605	C-9
IC702	H-2
IC703	G-1
IC802	D-2
IC803	F-3
IC901	1-4
IC903	H-5
IC906	F-5
Q001	J-4
Q002	J-4
Q201	B-11
Q202	B-11
Q701	I-3

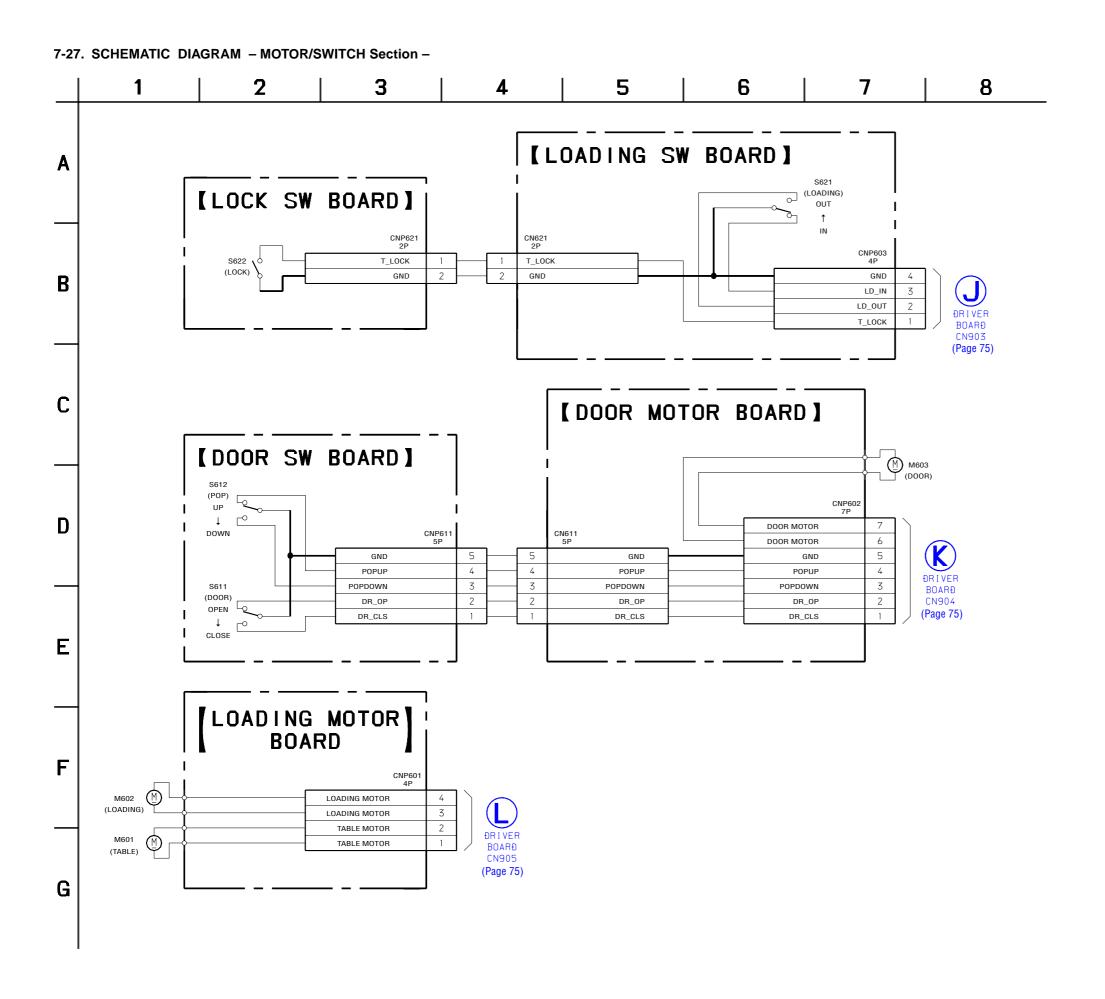


#### Semiconductor Location

Locatio	,111 
Ref. No.	Location
D935	C-3
IC941 IC961	E-11 C-11
Q931 Q941	C-3 B-3
Q942	B-3
Q951	C-3
l 0952	C-3

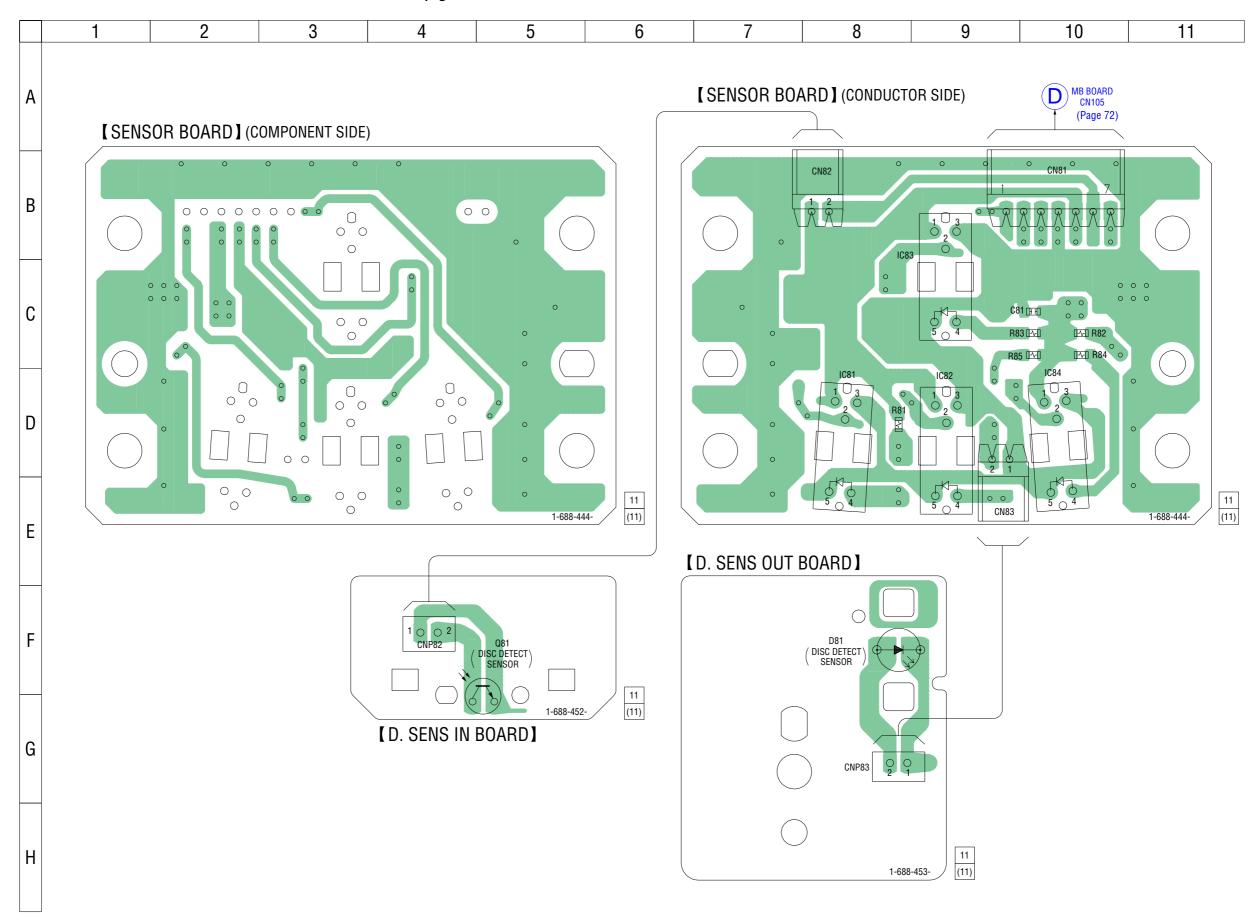


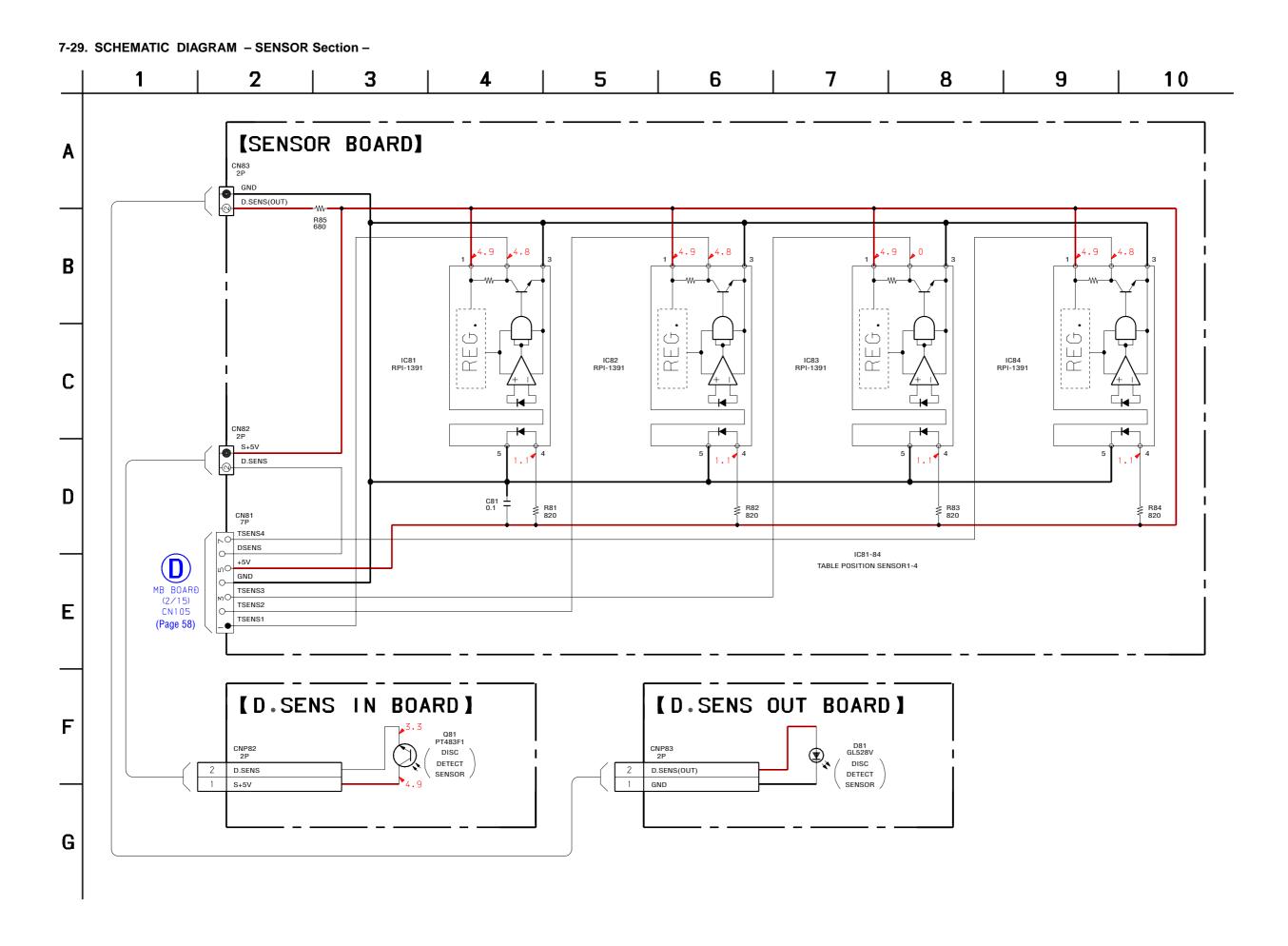


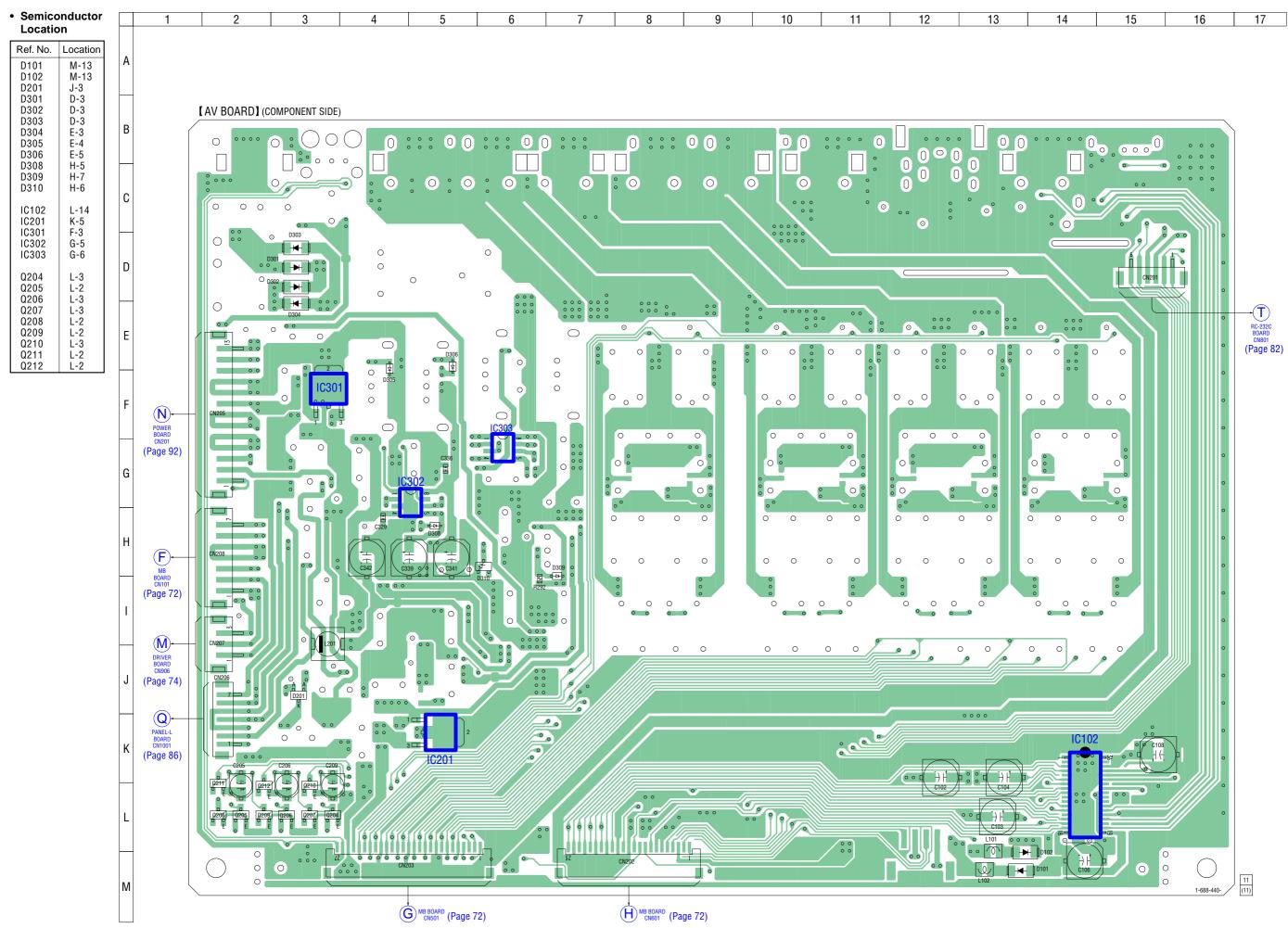


#### • Semiconductor Location

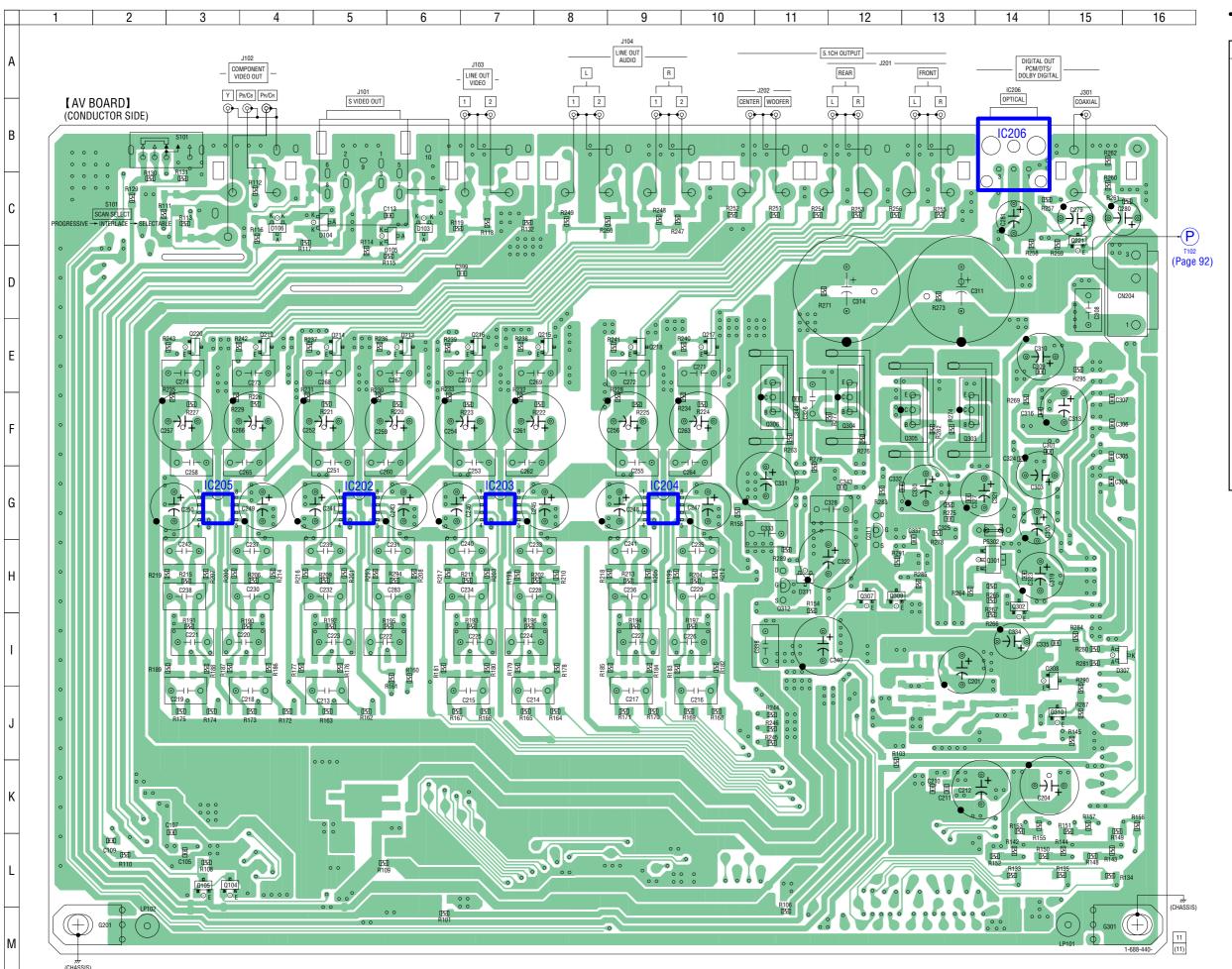
Ref. No.	Location
D81	F-8
IC81 IC82 IC83 IC84	D-8 D-9 D-10 C-9
081	G-5





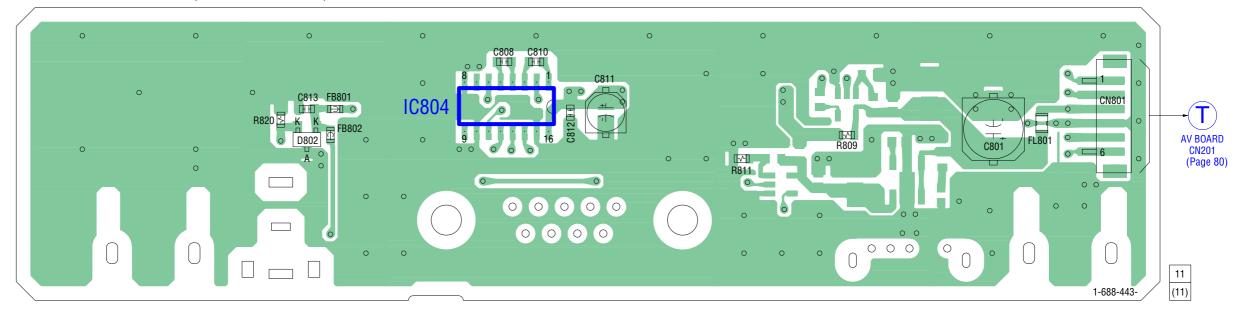


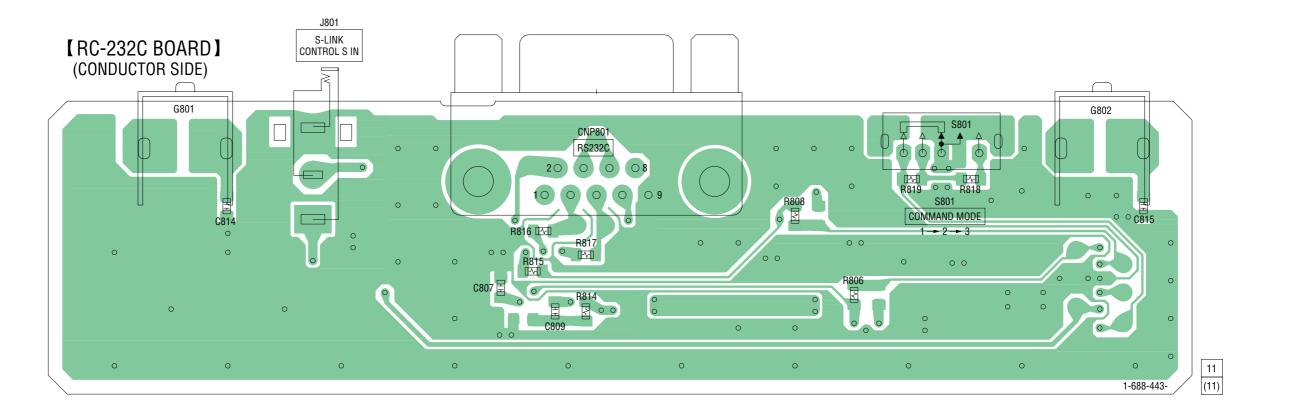
7-31. PRINTED WIRING BOARD – AV Board (Conductor Side) – • See page 56 for Circuit Boards Location. \*\* :Uses unleaded solder.



		ı
Ref. No.	Location	
D103 D104 D105 D106 D307 D311	C-6 C-5 C-6 C-4 I-16 H-11	
IC202 IC203 IC204 IC205 IC206	G-5 G-7 G-9 G-3 B-14	
Q104 Q105 Q213 Q214 Q215 Q216 Q217 Q218 Q219 Q220 Q221 Q301 Q302 Q303 Q304 Q305 Q305 Q306 Q307 Q308 Q309 Q310 Q311 Q312	L-3 L-3 E-6 E-5 E-8 E-7 E-10 E-9 E-4 E-3 C-15 H-14 H-12 F-13 F-11 H-12 J-15 H-12 J-15 H-11	

# [ RC-232C BOARD] (COMPONENT SIDE)





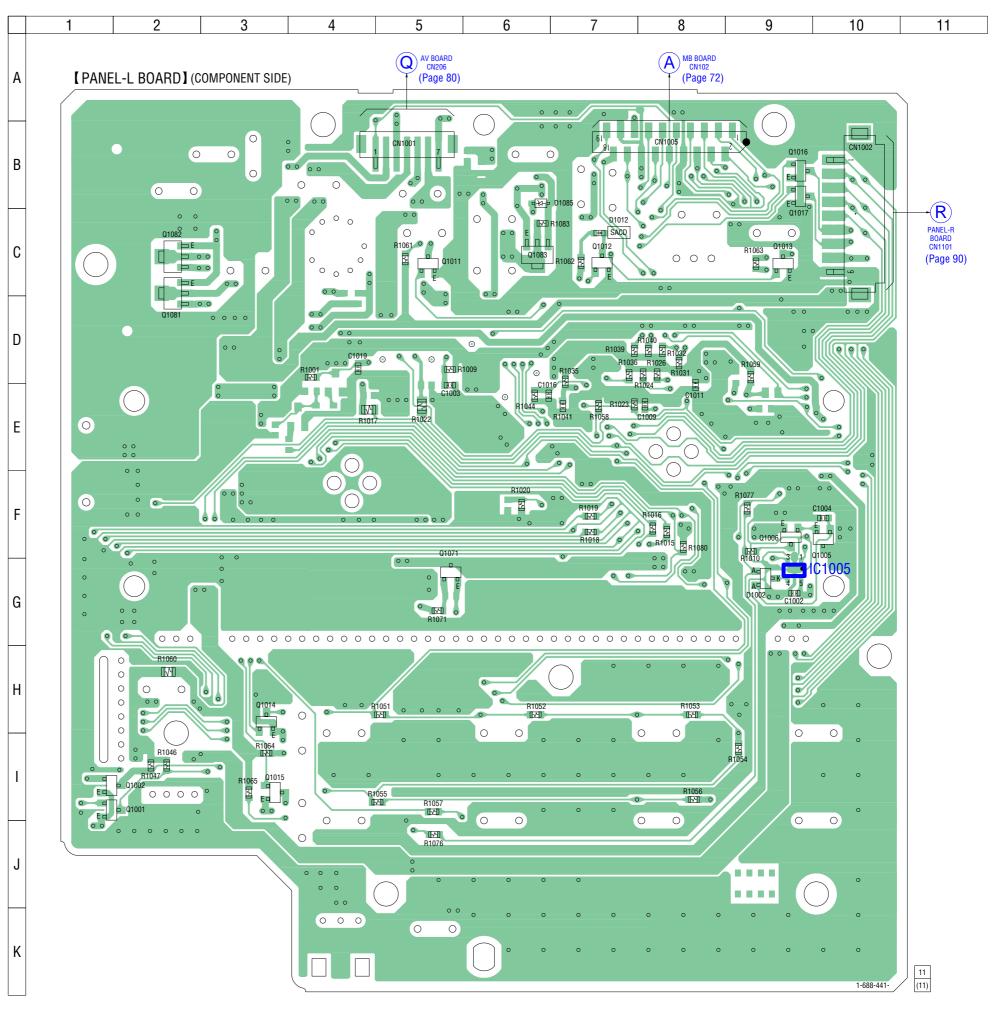
7-33. SCHEMATIC DIAGRAM - AV (1/3)/RS-232C Boards - • See page 94 for Waveforms. • See page 98 for IC Block Diagram. 2 3 | 4 | 5 9 10 11 12 | 13 | 6 7 8 14 | 15 [AV BOARD] (1/3) IC B/D IC102 В GNĐ C  $\Longrightarrow$  $\rightarrow$  $\rightarrow$ Y/G GNÐ CB/R C  $\Longrightarrow$ MB BOARD (12/15) CN601 (Page 68) CR/B **→>>>** GNÐ V-MUTE V-OFF 1CGND >>> 200 [PSW WIÐE D GNÐ GNÐ SIRCS\_MOÐE S-LINK RX TX  $\rightarrow$ R114 68  $\rightarrow$ Ε 2 1 S VIDEO OUT C105 0.047 Q104,105 WIDE ON/OFF SWITCH R113 68 F R112 68 PB/CB COMPONENT VIDEO OUT GNÐ E+3.3V S-LINK SIRCS\_MOĐE Y R129 R130 1k 1k AV BOARD (3/3) (Page 85) G 02 AV BOARD (3/3) D101 1SR154-400TE-25 (Page 85) Н **03** AV BOARD (3/3) (Page 85) [RS-232C BOARD] IC804 4 GND 3 E+3.3V 2 S-LINK R818 ≸ 2.2k 83 83

# 7-34. SCHEMATIC DIAGRAM - AV Board (2/3) -2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 [AV BOARD](2/3) MB BOAR (10/15) CN501 1 BOARD (1/3) (Page 83) (Page 66) D =>>> IC203 IC205 (Page 85) C223 330p 100V IC202 IC204 IC206 IC201 R293 ≸ 1.8k 06 AV BOAR (3/3) =>>> COAXIAL (Page 85)

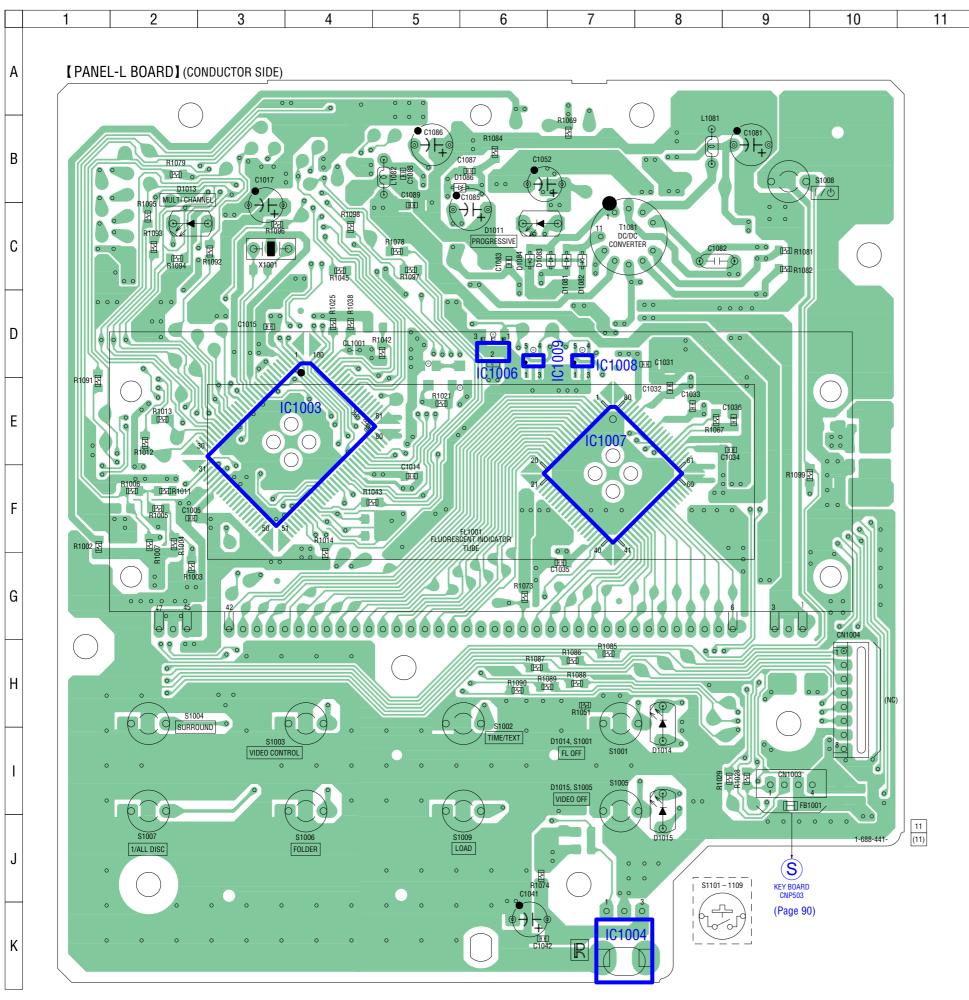
85

#### • Semiconductor Location

Ref. No.	Location
D1002	G-9
D1012	C-7
D1085	B-6
104005	
IC1005	G-9
Q1001	  -1
Q1002	i-i
Q1005	F-10
Q1006	F-9
Q1011	C-5
Q1012	C-7
Q1013	C-9
Q1014	H-3
Q1015	I-3
Q1016	B-9
Q1017	B-9
Q1071	G-5
Q1081	C-2
Q1082	C-2
Q1083	C-6



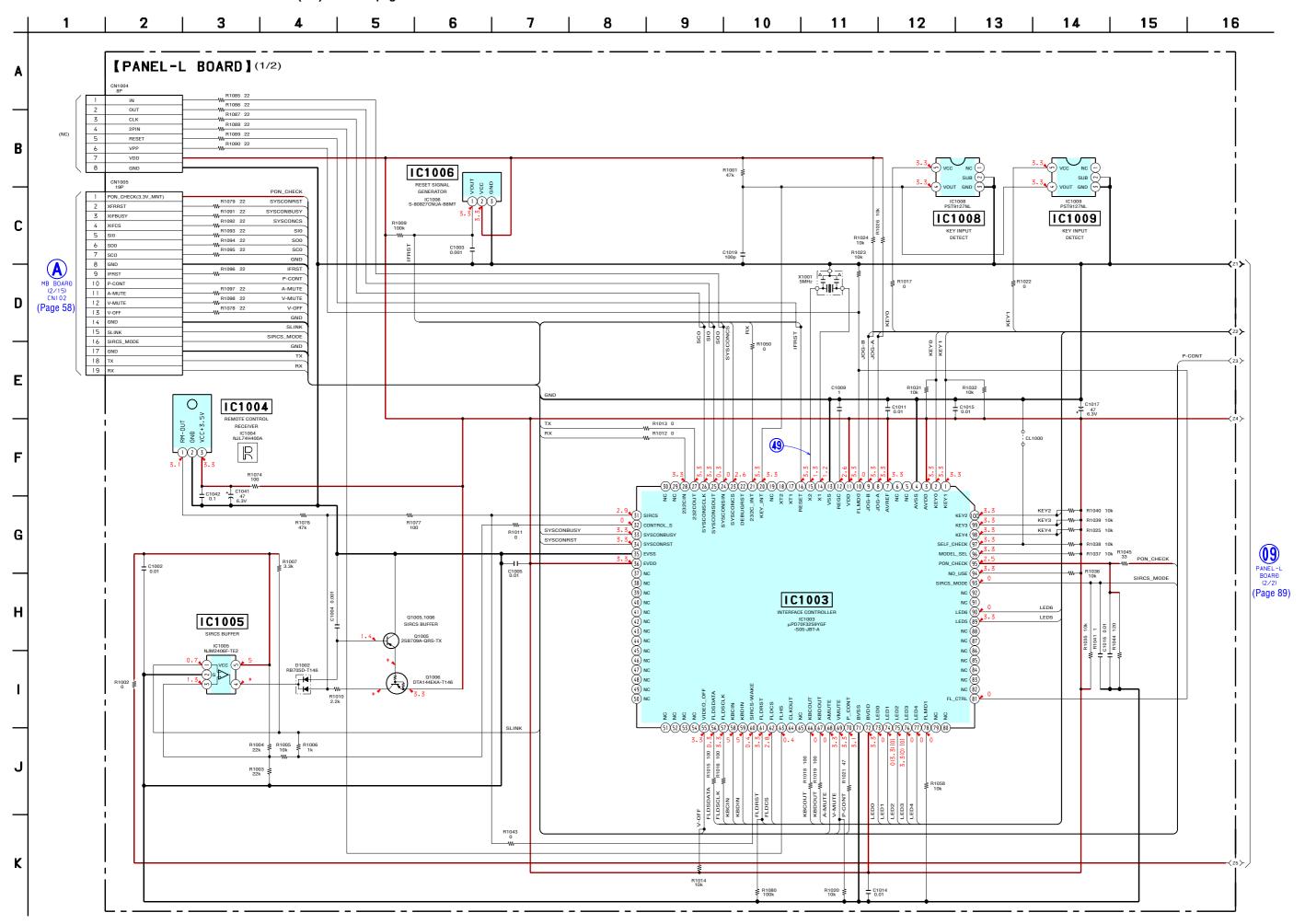
7-37. PRINTED WIRING BOARD - PANEL-L Board (Conductor Side) - • See page 56 for Circuit Boards Location. \*\* :Uses unleaded solder.



## Semiconductor Location

Ref. No.	Location
D1011	C-6
D1013	C-2
D1014	H-8
D1015	I-8
D1081	C-7
D1082	C-7
D1083	C-7
D1084	C-6
D1086	B-6
IC1003	E-4
IC1004	K-7
IC1006	D-6
IC1007	F-7
IC1008	D-7
IC1009	D-6

7-38. SCHEMATIC DIAGRAM - PANEL-L Board (1/2) - • See page 94 for Waveform.



89

PANEL-L BOARD CN1102 J821 KEYB0ARD (Page 86) 【KEY BOARD】 [PANEL-R BOARD] 0 LP1101 R1118 R1110 R1102 S1108 \$1101 S1103 S1102 ≙ DISC EJECT OPEN/CLOSE R1111 11 CNP503 1-688-454-(11) S1104 R1104 R1113 R1112 TOP MENU S R1105 R1106 ™ R1107 PANEL-L BOARD CN1103 (Page 87) S1106 MENU MB BOARD D1101, S1111 CN105 DISC CHANGE 四 R1114 RE1101 ROTARY ENCODER (Page 72) PUSH ENTER 07 [LED BOARD] DISC AMS PUSH ENTER **I**™ R1108 1 2 ™ R1109 S1101 - 1112 D1102, S1112 DIRECT R1117 SEARCH S1112 D801 (ILLUMINATION) 11 S1109 S1105 1-688-449-♂ RETURN DISPLAY (11)  $(\circ)$ LP1102 11

(11)

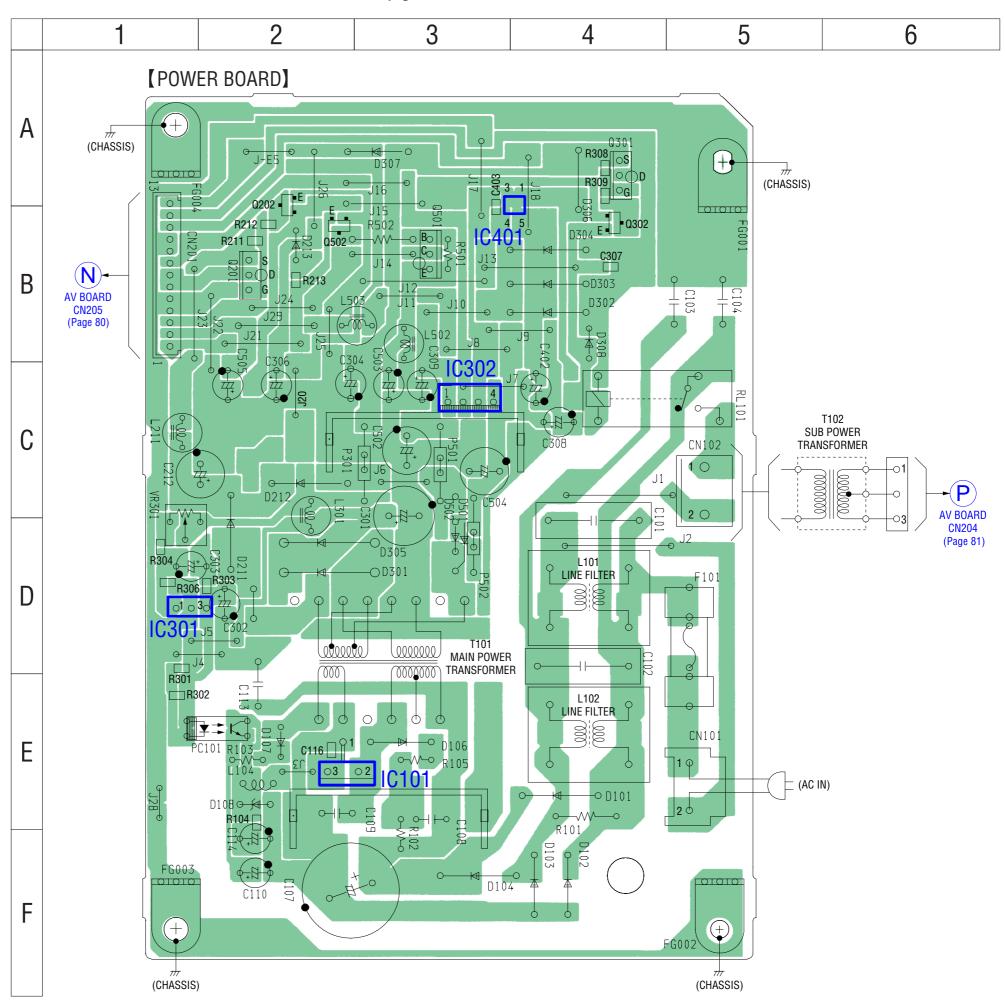
1-688-445-

#### 7-41. SCHEMATIC DIAGRAM - PANEL Section -2 3 6 7 8 9 4 5 10 11 12 13 [KEY BOARD] [PANEL-R BOARD] Α J821 KEYBOARD R1118 3.3k R1102 4.7k S1103 S1101 OPEN/CLOSE S1102 C822 0.1 S1104 TOP MENU S1105 DISPLAY S1106 S C PANEL-L BOARĐ (2/2) CN1103 SW+5V 3 R1109 47k JG1101 KEYBOARD\_CLK PUSH ENTER KEYBOARD\_DATA R1116 150 R1117 (Page 89) D KEY3 KEY4 R D1101 SEL5821A -TP15 D1102 SEL5521C -TP15 JOG-A [LED BOARD] PANEL - L BOARĐ (2/2) CN1002 (Page 89) JOG-B DIRECT LED5(DISC-CHANGE) LED6(DIRECT-SEARCH) MB BOARD (2/15) CN105 R1110 1k R1114 10k R1115 22k SW+5V LEĐ S+5V Ε S1108 { | S1109 { | S S1112 S1111 SISC CHANGE S1110 +100 DIRECT (Page 58) D801 SELU5E23C-PTP15 (ILLUMINATION) RETURN RE1101 ROTARY ENCODER DISC AMS PUSH ENTER G

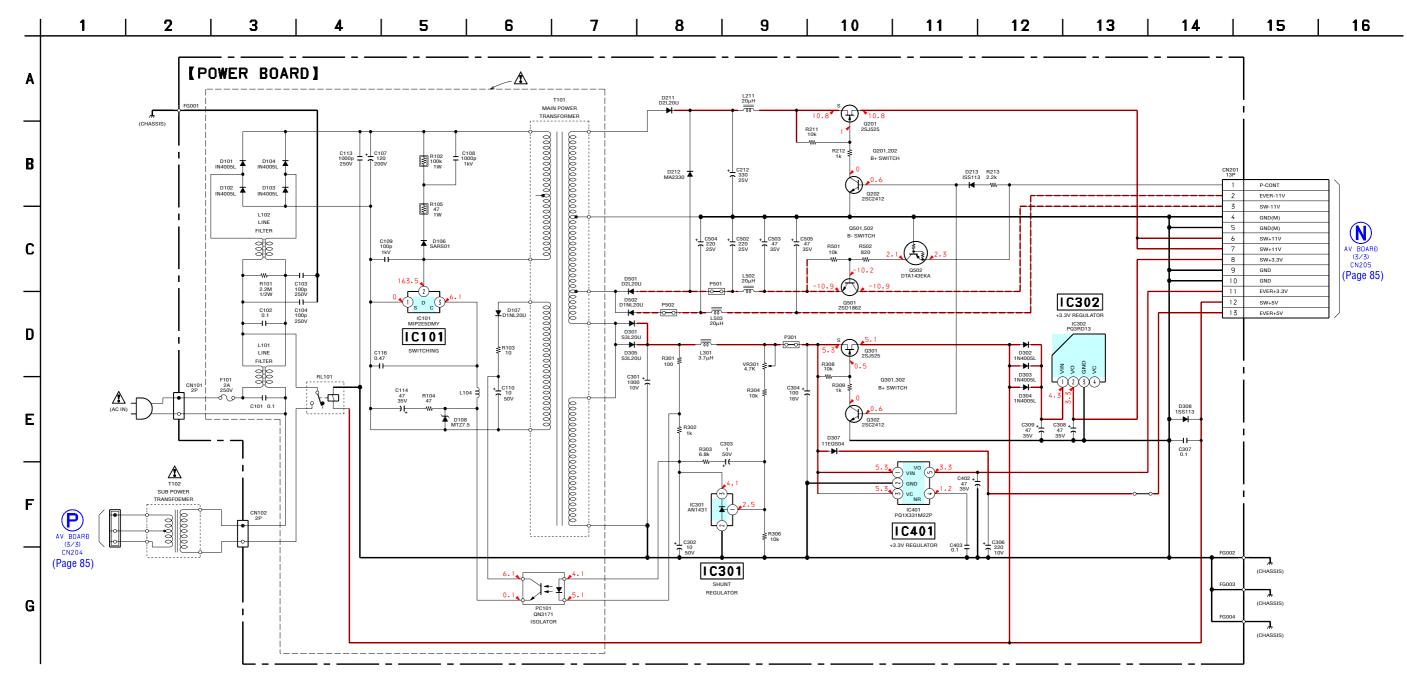
7-42. PRINTED WIRING BOARD - POWER Board - • See page 56 for Circuit Boards Location.

#### • Semiconductor Location

Ref. No.	Location
D101 D102 D103 D104 D106 D107 D108 D211 D212 D213 D301 D302 D303 D304 D305 D307 D308 D501 D502	E-4 F-4 F-3 E-3 E-2 E-2 D-2 C-2 B-2 D-2 B-4 B-4 D-2 A-3 B-4 D-3
IC101 IC301 IC302 IC401	E-2 D-1 C-3 A-4
PC101	E-2
Q201 Q202 Q301 Q302 Q501 Q502	B-2 B-2 A-4 B-4 B-3 B-2



#### 7-43. SCHEMATIC DIAGRAM - POWER Board -



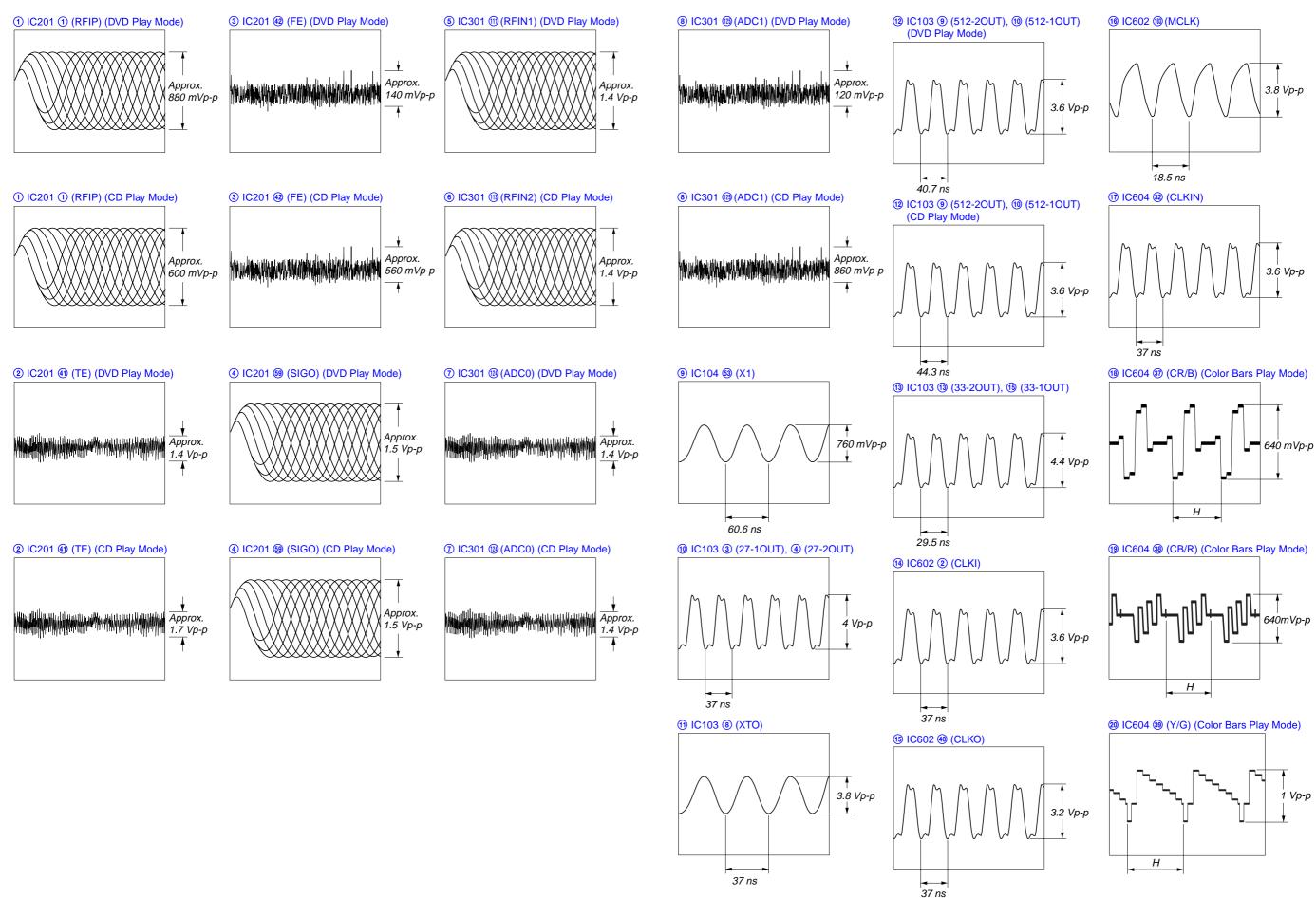
The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

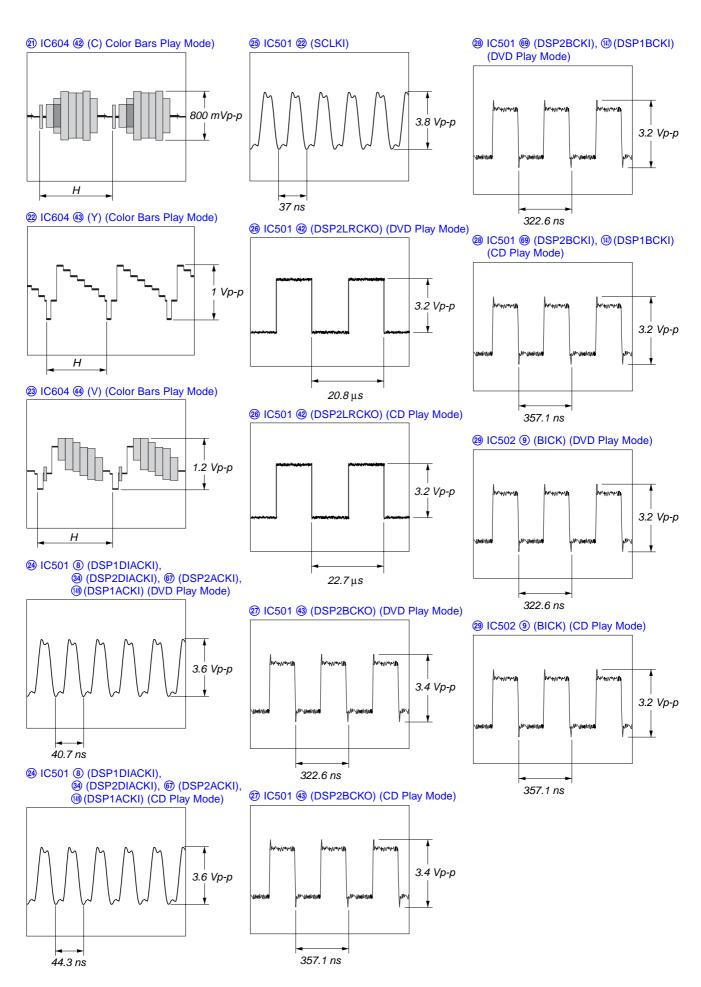
Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

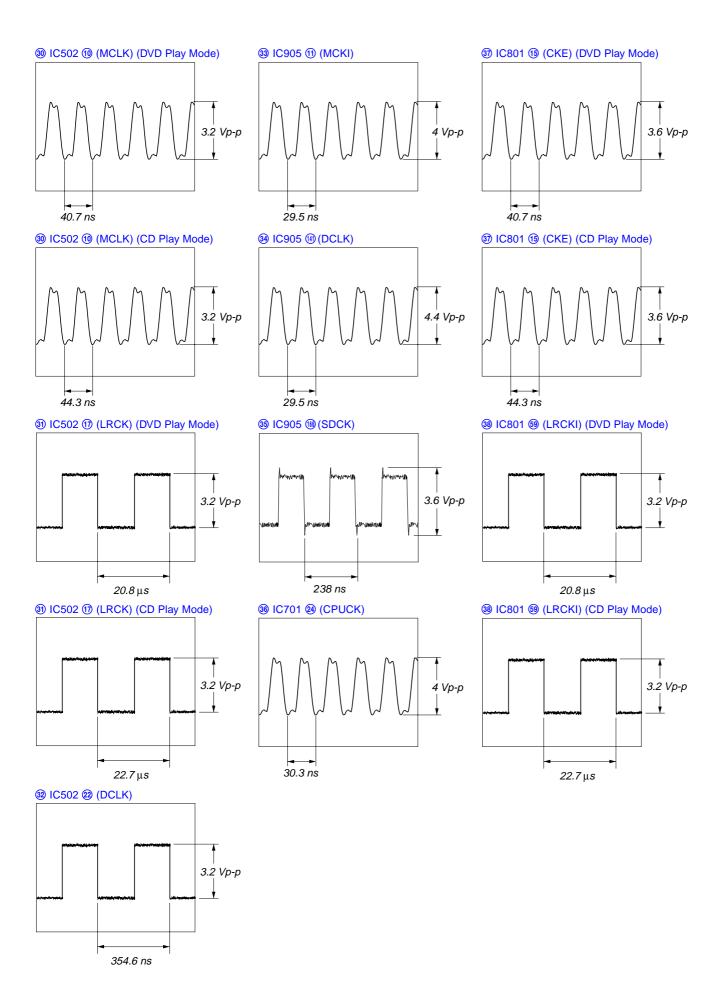
## **DVP-CX777ES**

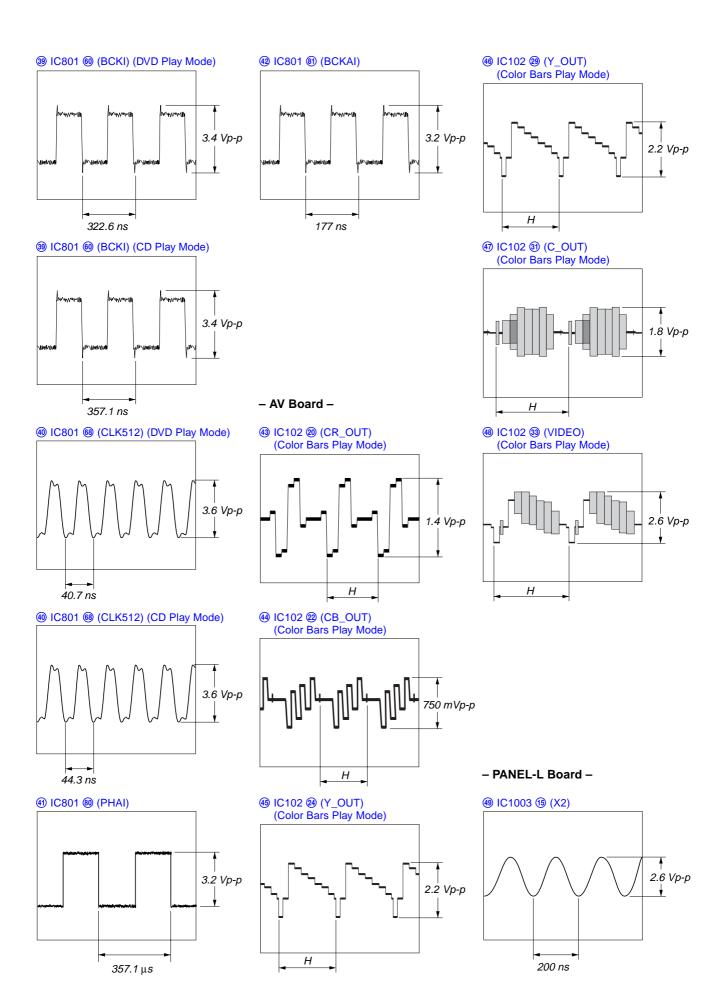








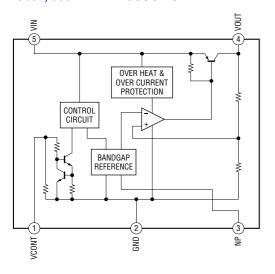




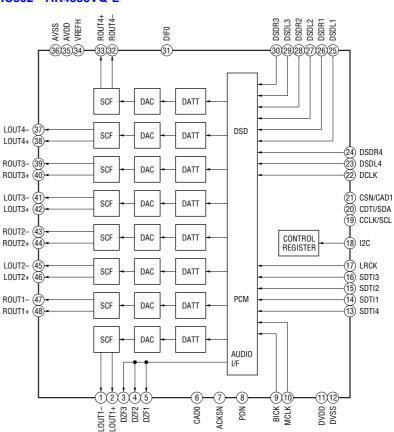
## **DVP-CX777ES**

- IC Block Diagrams
- MB Board -

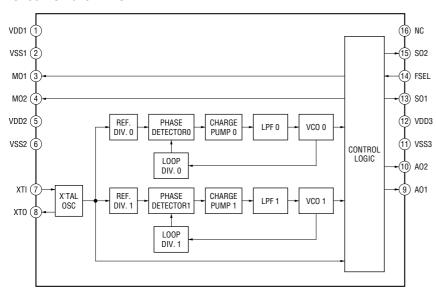
IC102, 302, 803 TK11133CSCL-G IC401 TK11118CSCL-G IC601, 605 TK11125CSCL-G



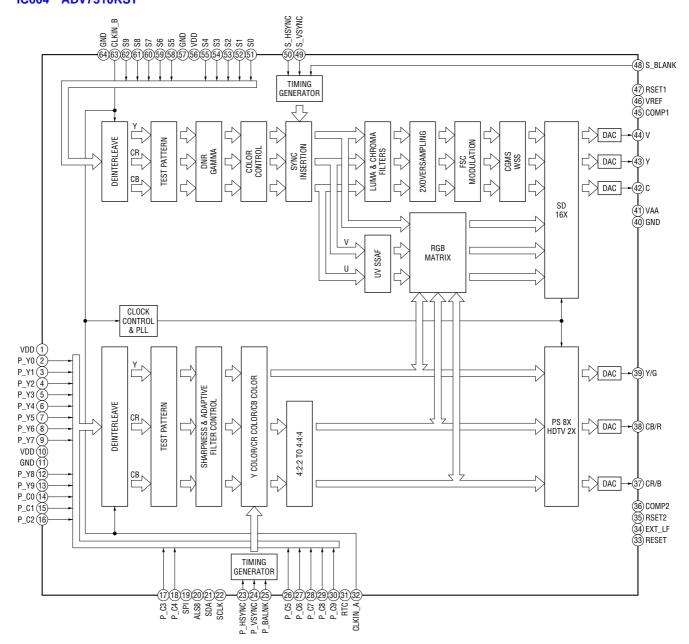
#### IC502 AK4358VQ-L



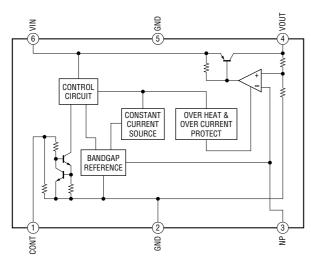
#### IC103 SM8707EV-G-E2



#### IC604 ADV7310KST



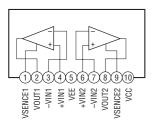
#### IC901 TK11225CMCL-G



## **DVP-CX777ES**

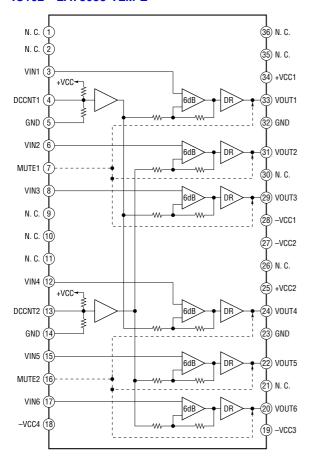
#### - DRIVER Board -

#### IC941, 961 LA6510



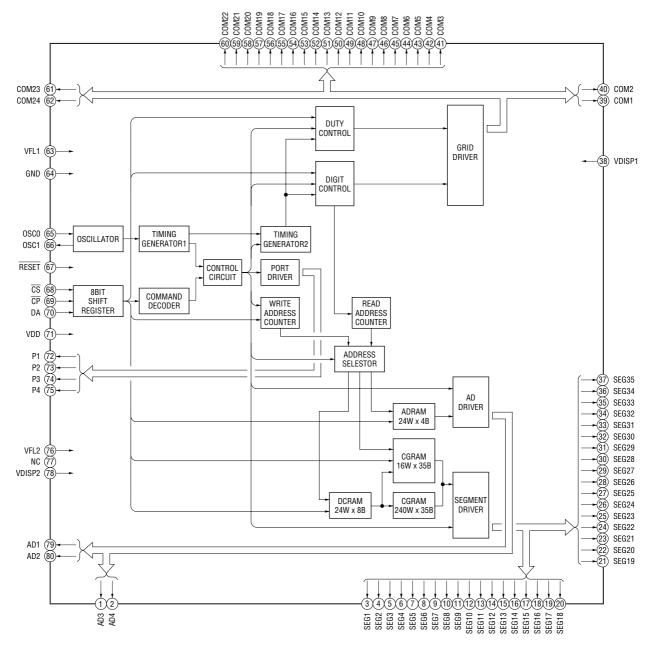
#### - AV Board -

## IC102 LA73053-TLM-E



#### - PANEL-L Board -

#### IC1007 MSM9201-04GS-K



## 7-44. IC PIN FUNCTION DESCRIPTION

## • MB BOARD IC104 MB91307RPFV-G-BND-E1 (SYSTEM CONTROLLER)

6 (N 7 8	A17 to HA21 NOT_USED) WP	0	Address signal output terminal
7 8	-	0	
8	WP		Not used
<del></del>		О	Write protect signal output to the EEPROM
	XSACS	О	Chip select signal output to the DSD decoder
9	AVCC	_	Power supply terminal (+3.3V)
10	AVRH	_	Reference voltage input (+3.3V) terminal
11	AVSS	_	Ground terminal
12	DISC_AD	I	Disc detect sensor input terminal
1 13 14 1	MOD_SET1, MOD_SET2	I	Mode setting input terminal
15	IPSW	I	Scan select switch input terminal
16 X	AVDECINT	I	Interrupt signal input from the AV decoder
17	XARPINT	I	Interrupt signal input from the DSP
18	XSDSPINT	I	Interrupt signal input from the DSP
19	XGAINT	I	Interrupt signal input from the mechanism controller
20	XIFINT	I	Interrupt signal input from the interface controller
21 X	KADSPINT0	I	Interrupt signal input from the audio DSP
22 X	KADSPINT1	I	Interrupt signal input terminal Not used
23	XSARDY	I	Ready signal input from the DSD decoder
24	VCC	_	Power supply terminal (+3.3V)
25	IFSI	I	Serial data input from the interface controller
26	IFSO	О	Serial data output to the interface controller
27	IFSC	О	Serial clock signal output to the interface controller
28	SIN1	I	Serial data input from the audio DSP, digital audio processor and DSD decoder
29	SOUT1	О	Serial data output to the audio DSP, D/A converter, digital audio processor and DSD decoder
30	SCK1	О	Serial clock signal output to the audio DSP, D/A converter, digital audio processor and DSD decoder
31	RX	I	Serial data input terminal (for check)
32	TX	О	Serial data output terminal (for check)
33 X	DVD/SACD	О	DVD/SACD selection signal output terminal Not used
34	VSS	_	Ground terminal
35	XRSTO	О	Reset signal output to the DSP, AV decoder, audio DSP, D/A converter, mechanism controller and digital audio processor "L": reset
36	WIDE	О	Wide control signal output terminal
37	(RGBSEL)	0	Not used
38	SDA	I/O	Two-way data bus with EEPROM, I/P converter and D/A converter
39	SCL	0	Serial clock signal output to the EEPROM, I/P converter and D/A converter
40	XSARST	0	Reset signal output to the DSD decoder "L": reset
41 (1	(EUROY/V)	О	Not used
42	(ISEL)	0	Not used
43 MO	DDE_SELECT0	I	Mode selection signal input terminal (Fixed at "H" in this set)
	ODE_SELECT1, ODE_SELECT2	I	Mode selection signal input terminal (Fixed at "L" in this set)
46	AVDREQ0	I	Request signal input from the AV decoder
	AVDDACK0	0	Acknowledge signal output to the AV decoder
<del></del>	DRVMUTE	0	Drive muting signal output to the motor/coil driver

Pin No.	Pin Name	I/O	Description
49	AVDREQ1	I	Request signal input from the AV decoder
50	AVDDACK1	0	Acknowledge signal output to the AV decoder
51	XIFCS	0	Chip select signal output to the interface controller
52	VSS		Ground terminal
53	X1	О	System clock output terminal (16.5 MHz)
54	X0	I	System clock input terminal (16.5 MHz)
55	VCC		Power supply terminal (+3.3V)
56	(CKSW1)	О	Not used
57	(OCSW1)	О	Not used
58	XROMCS	О	Chip select signal output to the flash memory
59	XRAMCS	О	Chip select signal output to the S-RAM
60, 61	XAVCS0, XAVCS1	О	Chip select signal output to the AV decoder
62	XARPCS	О	Chip select signal output to the DSP
63	XSDSPCS	О	Chip select signal output to the DSP
64	VCCI	_	Power supply terminal (+1.8V)
65	XGACS	О	Chip select signal output to the mechanism controller
66	(NC)	О	Not used
67	XWAIT	I	Wait signal input from the DSP and AV decoder
68	TEST (H)	I	Input terminal for the test (normally: fixed at "H")
69	TEST	I	Input terminal for the test
70	XRD	0	Read enable signal output to the flash memory, S-RAM, DSP, AV decoder and mechanism controller
71	XWRH	О	High byte write enable signal output to the flash memory, S-RAM, DSP, AV decoder and mechanism controller
72	XWRL	О	Low byte write enable signal output to the S-RAM
73	XNMI	I	Not used
74	VCCI	_	Power supply terminal (+1.8V)
75	VSS	_	Ground terminal
76	XRESET	I	Reset signal input from the interface controller "L": reset
77	CPUCK	О	Master clock (33 MHz) signal output to the mechanism controller
78	SMUTE	O	Soft muting control signal output to the DSD decoder
79	XDACS	O	Chip select signal output to the D/A converter
80	XADSPCS	O	Chip select signal output to the audio DSP
81	48/44.1K	O	PLL frequency control signal output to the clock generator
82	XLDON	О	Laser diode control signal output to the RF amplifier
83	MAMUTE	О	Audio muting control signal output terminal
84	XSRWE	О	Write enable signal to the S-RAM
85 to 100	HD0 to HD15	I/O	Two-way data bus terminal
101	VSS	_	Ground terminal
102 to 109	HA0 to HA7	О	Address signal output terminal
110	VCC	_	Power supply terminal (+3.3V)
111 to 118	HA8 to HA15	O	Address signal output terminal
119	VSS		Ground terminal
120	HA16	О	Address signal output terminal

## • MB BOARD IC201 SP3726A (CD/DVD/SACD RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Description
1, 2	RFIP, RFIN	I	RF signal input from the optical pick-up block
3	CP	_	Tracking low-pass filter terminal
4	WIN	I	Wobble detection signal input terminal Not used
5	WPP	О	Wobble push-pull signal output terminal Not used
6	CN	_	Tracking low-pass filter terminal
7 to 10	A2 to D2	I	Photo detector interface input from the optical pick-up block (AC coupled input for the DPD and wobble)
11 to 14	D to A	I	Photo detector interface input from the optical pick-up block (main)
15, 16	E, F	I	Photo detector interface input from the optical pick-up block (sub)
17	SIGDET B	О	Signal detection signal output to the DSP
18	INTR	I	Interruption control signal input from the DSP
19	VC	О	Reference voltage (+2.5V) output to the optical pick-up block
20	VPB	_	Power supply terminal (+5V) ( for servo block)
21	PGSELO	О	PDIC gain selection signal output to the optical pick-up block
22	PD	I	Automatic power control signal input from the optical pick-up block
23	VNB	_	Ground terminal (for servo block)
24	LDSELO	О	Automatic power control laser diode selection signal output to the optical pick-up block
25	DVDLD	О	DVD automatic power control signal output terminal
26	CDLD	О	CD automatic power control signal output terminal
27	LDONB	I	Laser diode output control signal input from the system controller
28	MEVO	0	Envelope signal output terminal for mirror
29	MIN	I	RF signal input terminal for mirror
30	MP	_	Mirror top hold terminal
31	MB	_	Mirror bottom hold terminal
32	MLPF	_	Mirror low-pass filter terminal
33	MIRR	О	Mirror signal output to the DSP
34	BYP2	_	Servo AGC gain control terminal
35	PII	I	Pull-in signal input terminal
36	PI	О	Pull-in signal output to the DSP
37	TZC	0	Tracking zero crossing signal output to the DSP
38	DFT	О	Defect signal output to the DSP
39	VCI	I	Reference voltage input from the motor/coil driver
40	TZIN	I	Tracking zero crossing signal input terminal
41	TE	О	Tracking error signal output to the DSP
42	FE	0	Focusing error signal output to the DSP
43	ТРН	_	Pull-in top hold terminal
44	MON	О	Monitor signal output to the DSP
45	SRD	0	Serial data output to the DSP
46	SWD	I	Serial data input from the DSP
47	SCLK	I	Serial clock signal input from the DSP
48	SDEN	I	Serial data enable signal input from the DSP
49	V33	_	Power supply terminal (+3.3V) (for CMOS output buffers)
50	RX	I	Reference resistor input terminal
51	TPA	_	RF top hold terminal
52	MEV		RF bottom envelope terminal
32	WIT: A		ואו טטנוטווו פוויפוטףכ ופווווווומו

Pin No.	Pin Name	1/0	Description	
53	VNA		Ground terminal (for RF block and serial port)	
54, 55	FNN, FNP	O	Differential filter normal signal output terminal	
56, 57	DIP, DIN	I	Analog signal input terminal for RF single buffer	
58	BYP		RF AGC gain control terminal	
59	SIGO	O	Single-ended RF signal output to the DSP and DSD decoder	
60	VPA	_	Power supply terminal (+5V) (for RF block and serial port)	
61, 62	AIP, AIN	I	AGC amplifier signal input terminal	
63, 64	ATON, ATOP	О	Differential attenuator signal output terminal	

## • MB BOARD IC301 CXD9703R (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	VSS	_	Ground terminal (for digital system)
2 to 9	A0 to A7	I	Address signal input terminal
10	VDD1.8V	_	Power supply terminal (+1.8V) (for digital system)
11	XINT	О	Interrupt signal output to the system controller
12	HCS	I	Chip select signal input from the system controller
13	TESTK0	I	Input terminal for the test (normally: fixed at "L")
14	VSS	_	Ground terminal (for digital system)
15	PDM0	О	Tracking coil drive signal output terminal
16	TESTK1	I	Input terminal for the test (normally: fixed at "L")
17	PDM1	О	Tracking coil drive signal output terminal
18	TESTK2	I	Input terminal for the test (normally: fixed at "L")
19	VDD3.3V	_	Power supply terminal (+3.3V) (for digital system)
20	PDM2	О	Focus coil drive signal output terminal
21	TESTK3	I	Input terminal for the test (normally: fixed at "L")
22	PDM3	О	Focus coil drive signal output terminal
23	VSS	_	Ground terminal (for digital system)
24	XWR	I	Write enable signal input from the system controller
25	XRD	I	Read enable signal input from the system controller
26	XINT	О	Interrupt signal output to the system controller
27	XCS	I	Chip select signal input from the system controller
28	XWAIT	О	Wait signal output to the system controller
29	XMWR	О	Write enable signal output to the D-RAM
30	XCAS	О	Column address strobe signal output to the D-RAM
31	XRAS	О	Row address signal output to the D-RAM
32, 33	MDS0, MDS1	О	Spindle motor drive signal output terminal
34	VDD1.8V	_	Power supply terminal (+1.8V) (for digital system)
35	VSS	_	Ground terminal (for digital system)
36 to 43	MD0 to MD7	I/O	Two-way data bus with the D-RAM
44	VDD3.3V		Power supply terminal (+3.3V) (for digital system)
45	VSS	_	Ground terminal (for digital system)
46 to 53	MD8 to MD15	I/O	Two-way data bus with the D-RAM
54	VDD1.8V	_	Power supply terminal (+1.8V) (for digital system)
55	LOCK	О	EFM lock detection signal output terminal Not used
56	DOUT	О	Digital audio data output to the AV decoder and audio DSP
57	SDCK	О	Stream data bus clock signal output to the AV decoder and DSD decoder
58	XSHD	О	Stream data bus header flag signal output to the AV decoder and DSD decoder
59	XSRQ	I	Stream data bus request signal input from the AV decoder and DSD decoder
60	VSS		Ground terminal (for digital system)
61	XRESET	I	Reset signal input from the system controller "L": reset
62	VDD3.3V		Power supply terminal (+3.3V) (for digital system)
63	XSAK	О	Stream data bus acknowledge signal output to the AV decoder and DSD decoder
64	SDEF	О	Stream data bus error flag signal output to the AV decoder and DSD decoder
65 to 74	MA0 to MA9	О	Address signal output to the D-RAM
75	VSS		Ground terminal (for digital system)
76	VDD1.8V		Power supply terminal (+1.8V) (for digital system)

Pin No.	Pin Name	I/O	Description
77 to 84	SD0 to SD7	О	Stream data output to the AV decoder and DSD decoder
85	JITPWM	0	Jitter PWM signal output terminal Not used
86	RFD	I/O	RF binary data input/output terminal Not used
87	PLCKO	О	Operation clock signal output for PSP physical disc mark detection to the DSD decoder
88	VSS		Ground terminal (for digital system)
89	VSSA0	_	Ground terminal (for analog system)
90	VCO	I	VCO control signal input terminal
91, 92	R1, R2	I	VCO external resistor connection terminal
93	VDDA0 3.3V	_	Power supply terminal (+3.3V) (for analog system)
94	VSSA1	_	Ground terminal (for digital system)
95	INM	I	OP amplifier negative input terminal
96	INP	I	OP amplifier positive input terminal
97 to 99	FR1 to FR3	I	Feedback resistor selection terminal
100	Y VDD 4.1.2.2V	О	OP amplifier output terminal
101	VDDA1 3.3V		Power supply terminal (+3.3V) (for analog system)
102	IREF	I	D/A converter reference current input terminal
103	AOUT VSSA2	О	D/A converter output terminal
104	VDDA2 3.3V		Ground terminal (for analog system)  Power supply terminal (+3.3V) (for analog system)
106	BIAS	I	D/A converter bias input terminal
107	VREF	I	D/A converter of as input terminal  D/A converter reference voltage input terminal
108	VSSD0		Ground terminal (for A/D converter)
109	VDDD0 3.3V		Power supply terminal (+3.3V) (for A/D converter)
110	VRT	I	A/D converter reference input terminal
111	RFIN1	I	RF signal input from the RF amplifier (for DVD)
112	VDDA3 3.3V		Power supply terminal (+3.3V) (for analog system)
113	RFIN2	I	RF signal input from the RF amplifier (for CD)
114	VSSA3		Ground terminal (for analog system)
115	VRB	I	A/D converter reference input terminal
116	VSSD1		Ground terminal (for A/D converter)
117	VDDD1 3.3V	_	Power supply terminal (+3.3V) (for A/D converter)
118	VSSD2	_	Ground terminal (for A/D converter)
119	VDDD2 3.3V		Power supply terminal (+3.3V) (for A/D converter)
120	VRBA	I	A/D converter reference input terminal
121	VSSA4		Ground terminal (for analog system)
122	VDDA4 3.3V	_	Power supply terminal (+3.3V) (for analog system)
123	VRTA	I	A/D converter reference input terminal
124	ADC0	I	Tracking error signal input from the RF amplifier
125	ADC1	I	Focusing error signal input from the RF amplifier
126	ADC3	I	Pull-in signal input from the RF amplifier  Tracking soil drive signal input terminal
127 128	ADC3 ADC4	I	Tracking coil drive signal input terminal  Spindle motor drive signal input terminal
129, 130	ADC4 ADC5, ADC6	I	Reference voltage input from the motor/coil driver
131	ADC7	I	Monitor signal input from the RF amplifier
132	VSSA5	_	Ground terminal (for analog system)
133	VDDA5 3.3V		Power supply terminal (+3.3V) (for analog system)
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Pin No.	Pin Name	I/O	Description
134 to141	D0 to D7	I/O	Two-way data bus terminal
142	VDD3.3V	_	Power supply terminal (+3.3V) (for digital system)
143, 144	PWM0, PWM1	О	Sled motor drive signal output terminal
145	VSS		Ground terminal (for digital system)
146	PWM2	0	PWM signal output terminal
147	DFCT	I	Defect signal input from the RF amplifier
148	MIRR	I	Mirror signal input from the RF amplifier
149	VDD1.8V		Power supply terminal (+1.8V) (for digital system)
150	CLKIN	I	Clock signal input from the clock generator
151	VSS		Ground terminal (for digital system)
152	TZC	I	Tracking zero crossing signal input from the RF amplifier
153	GIO0/INT2	I	Limit in detect switch input terminal
154	GIO1/INT3	О	Spindle motor drive control signal output terminal
155	GIO2/INT4	О	Thermal shut down signal output to the motor/coil driver
156	GIO3/INT5	I/O	Not used
157	GIO4/PGREF	I/O	Not used
158	GIO5/PGIN	I	Signal detection signal input from the RF amplifier
159	GIO6/SDI	I	Serial data input from the RF amplifier
160	VDD3.3V		Power supply terminal (+3.3V) (for digital system)
161	GIO7/SDO	О	Serial data output to the RF amplifier
162	GIO8/SCK	0	Serial clock signal output to the RF amplifier
163	GIO9/FGREF	I/O	Not used
164	GIO10/FGIN	I/O	Not used
165	GIO11/TMC2	О	Interruption control signal output to the RF amplifier
166	GIO12	I/O	Not used
167	GIO13	О	Serial data enable signal output to the RF amplifier
168	VSS		Ground terminal (for digital system)
169	DATA/EMU1	О	Serial data output to the AV decoder
170	BCLK/EMU1	О	Bit clock signal output to the AV decoder
171	TRST	I	Reset signal input from the interface controller
172	TMS	I	Mode selection signal input terminal
173	TDI	I	Serial data input from the mechanism controller
174	TCK	I	Clock signal input terminal
175	LRCK/TDO	О	L/R sampling clock signal output to the AV decoder and serial data output to the DSD decoder
176	VDD1.8V		Power supply terminal (+1.8V) (for digital system)

#### • MB BOARD IC403 CXD1935Q (AV DECODER)

Pin No.	Pin Name	I/O	Description
1	IOVDD00	_	Power supply terminal (+3.3V) (for digital system)
2 to 5	HDATA0 to	I/O	Two-way data bus terminal
6	CVS00	_	Ground terminal (for digital system)
7 to 10	HDATA4 to HDATA7	I/O	Two-way data bus terminal
11	CVD00	_	Power supply terminal (+1.8V) (for digital system)
12 to 15	HDATA8 to HDATA11	I/O	Two-way data bus terminal
16	IOVSS00	_	Ground terminal (for digital system)
17 to 20	HDATA12 to HDATA15	I/O	Two-way data bus terminal
21	CVS01	_	Ground terminal (for digital system)
22	ACLK	I	Audio clock signal input from the clock generator
23	CVD01	_	Power supply terminal (+1.8V) (for digital system)
24	ACH12O	О	Audio data (for front) output to the audio DSP
25	ACH34O	0	Audio data (for rear) output to the audio DSP
26	ACH56O	0	Audio data (for center and woofer) output to the audio DSP
27	IOVDD01		Power supply terminal (+3.3V) (for digital system)
28	LRCKO	О	L/R sampling clock output to the audio DSP
29	ВСКО	0	Bit clock output to the audio DSP
30	DO	0	Serial data output terminal Not used
31	CDIN2I	I	Digital audio data input from the DSP
32	CDIN1I	I	Serial data input from the DSP
33	IOVSS01	_	Ground terminal (for digital system)
34	CDBCKI	I	Bit clock input from the DSP
35	CDLRKI	I	L/R sampling clock input from the DSP
36	CVS02	_	Ground terminal (for digital system)
37 to 40	DT0I to DT3I	I	Stream data input from the DSP
41	IOVDD02	_	Power supply terminal (+3.3V) (for digital system)
42 to 45	DT4I to DT7I	I	Stream data input from the DSP
46	CVD02		Power supply terminal (+1.8V) (for digital system)
47	ICLKI	I	Stream data bus clock signal input from the DSP
48	IERRIN	I	Stream data bus error flag signal input from the DSP
49	ISTARTIN	I	Stream data bus header signal input from the DSP
50	IVALIN	I	Stream data bus acknowledge signal input from the DSP
51	IREQON	0	Stream data bus request signal output to the DSP
52	IOVSS02		Ground terminal (for digital system)
53	IOAVSS00		Ground terminal (for analog system)
54	AVDD00	_	Power supply terminal (+3.3V) (for analog system)
55	YOUT	0	Y (luminance) analog video signal output terminal Not used
56	AVSS00	_	Ground terminal (for analog system)
57	GOUT	0	Green analog video signal output terminal Not used
58	AVDD01	_	Power supply terminal (+3.3V) (for analog system)
59	ROUT	0	Red analog video signal output terminal Not used
60	AVSS01		Ground terminal (for analog system)

Pin No.	Pin Name	I/O	Description
61	BOUT	0	Blue analog video signal output terminal Not used
62	AVDD02	_	Power supply terminal (+3.3V) (for analog system)
63	COUT	O	C (chroma) analog video signal output terminal Not used
64	AVSS02	_	Ground terminal (for analog system)
65	COMPOUT	0	Composite analog video signal output terminal Not used
66	DVSS33	_	Ground terminal (for digital system)
67	DVDD33		Power supply terminal (+3.3V) (for digital system)
68	VGO	I	Connected to the power supply (+3.3V) with capacitor
69	IOAVDD00		
		т	Power supply terminal (+3.3V) (for analog system)
70, 71	VREF	I	D/A converter reference voltage input terminal
	IOVDD03	_	Power supply terminal (+3.3V) (for digital system)
73	FLEDO	0	Field ID output terminal Not used
74	HSYNCO	О	Horizontal sync signal terminal Not used
75	CVS03		Ground terminal (for digital system)
76, 77	DSPACK0, DSPACK1	I	Acknowledge signal input from the audio DSP
78	CVD03	_	Power supply terminal (+1.8V) (for digital system)
79	IOVSS03	_	Ground terminal (for digital system)
80	I2C_CLK	_	Not used
81	CVS04	_	Ground terminal (for digital system)
82	I2C_DATA	_	Not used
83	IOVDD04	_	Power supply terminal (+3.3V) (for digital system)
84 to 87	DVO0 to DVO3	О	Digital video signal output to the I/P converter
88	CVD04	_	Power supply terminal (+1.8V) (for digital system)
89 to 92	DVO4 to DVO7	О	Digital video signal output to the I/P converter
93	BF_ID	О	Blending factor exist ID output terminal Not used
94	NC	_	Not used
95	D1CLKO	О	Digital video clock (27 MHz) output to the I/P converter
96	IOVSS04	_	Ground terminal (for digital system)
97	TDI	I	Serial data input from the I/P converter
98	TDO	О	Serial data output terminal
99	TCK	I	Clock signal input terminal
100	IOVDD05	_	Power supply terminal (+3.3V) (for digital system)
101	TMS	I	Mode selection signal input terminal
102	TRST	I	Reset signal input from the interface controller "L": reset
103	CVS05	_	Ground terminal (for digital system)
104	IOVSS05	_	Ground terminal (for digital system)
105 to 108	SDAD2O to SDAD5O	О	Address signal output to the SD-RAM
109	CVD05	_	Power supply terminal (+1.8V) (for digital system)
110 to 113	SDAD0O, SDAD1O, SDAD6O, SDAD7O	О	Address signal output to the SD-RAM
114	IOVDD06		Power supply terminal (+3.3V) (for digital system)
115, 116	SDAD8O, SDAD10O	О	Address signal output to the SD-RAM
117	SDAD12O	О	Address signal output terminal Not used
118	SDAD9O	О	Address signal output to the SD-RAM

Pin No.	Pin Name	I/O	Description
119	IOVSS06	_	Ground terminal (for digital system)
120	SDAD110	О	Address signal output to the SD-RAM
121, 122	SDCS0ON, SDCS1ON	О	Chip select signal output to the SD-RAM
123	IOVDD07	_	Power supply terminal (+3.3V) (for digital system)
124	SDCKEO	О	Clock enable signal output to the SD-RAM
125	SDRASON	О	Row address strobe signal output to the SD-RAM
126	IOVSS07	_	Ground terminal (for digital system)
127	SDCLKO	О	Clock (108 MHz) signal output to the SD-RAM
128	IOVDD08	_	Power supply terminal (+3.3V) (for digital system)
129	SDCASON	О	Column address strobe signal output to the SD-RAM
130	SDWEON	О	Write enable signal output to the SD-RAM
131	CVS06	_	Ground terminal (for digital system)
132, 133	SDDQM0O, SDDQM1O	0	DQM signal output to the SD-RAM
134	IOVSS08	_	Ground terminal (for digital system)
135 to 138	SDDQ6 to SDDQ9	I/O	Two-way data bus with the SD-RAM
139	CVD06	_	Power supply terminal (+1.8V) (for digital system)
140 to 143	SDDQ4, SDDQ5, SDDQ10, SDDQ11	I/O	Two-way data bus with the SD-RAM
144	IOVDD09		Power supply terminal (+3.3V) (for digital system)
145 to 148	SDDQ2, SDDQ5, SDDQ12, SDDQ13	I/O	Two-way data bus with the SD-RAM
149	IOVSS09		Ground terminal (for digital system)
150, 151	SDDQ1, SDDQ14	I/O	Two-way data bus with the SD-RAM
152	IOVDD10		Power supply terminal (+3.3V) (for digital system)
153, 154	SDDQ0, SDDQ15	I/O	Two-way data bus with the SD-RAM
155	IOVSS10		Ground terminal (for digital system)
156	CRPCLKI	I	Not used
157	TESTI	I	Input terminal for the test (normally: fixed at "H")
158	CLKI	I	Clock (27 MHz) signal input from the clock generator
159	PAVDD18P		Power supply terminal (+3.3V) (for analog system)
160	SCLKI	I	System clock (27 MHz) signal input from the clock generator
161	PAVSS18G	I	Ground terminal (for analog system)
162	MBIST_EN	I	Not used
163	SCAN_MOD	I	Not used
164	SCAN_EN	I	Not used
165	IOVDD11		Power supply terminal (+3.3V) (for digital system)
166, 167	HAD22I, HAD23I	I	Chip select signal input from the system controller
168, 169	HAD20I, HAD21I	I	Address signal input terminal
170	CVS07		Ground terminal (for digital system)
-	HAD16I to HAD19I		Address signal input terminal
175	IOVSS11		Ground terminal (for digital system)
	HAD12I to HAD15I	I	Address signal input terminal
180	CVD07		Power supply terminal (+1.8V) (for digital system)
	HAD8I to HAD11I	I	Address signal input terminal
185	IOVDD12		Power supply terminal (+3.3V) (for digital system)

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Pin No.	Pin Name	I/O	Description
186 to 189	HAD4I to HAD7I	I	Address signal input terminal
190	CVS08	_	Ground terminal (for digital system)
191 to 194	HAD3I to HAD0I	I	Address signal input terminal
195	IOVSS12	_	Ground terminal (for digital system)
196	HCSN	I	Read enable signal input from the system controller
197	HRWN	I	Write enable signal input from the system controller
198	HCPUMDI	I	CPU mode selection signal input terminal
199	HIRQON	О	Interrupt signal output to the system controller
200	HWAITON	О	Wait signal output to the system controller
201	CVD08	_	Power supply terminal (+1.8V) (for digital system)
202	DMACK1IN	I	Acknowledge signal input from the system controller
203	DMARQ10N	О	Request signal input from the system controller
204	DMACK0IN	I	Acknowledge signal input from the system controller
205	DMARQ0ON	О	Request signal input from the system controller
206	IOVDD13	_	Power supply terminal (+3.3V) (for digital system)
207	RSTN	I	Reset signal input from the system controller "L": reset
208	IOVSS13	_	Ground terminal (for digital system)

#### • MB BOARD IC501 CXD1938AR (AUDIO DIGITAL SIGNAL PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	CVD00	_	Power supply terminal (+1.8V) (digital system)
2	DSP1ACKO2	О	Acknowledge signal output terminal Not used
3, 4	DSP1ACKO0, DSP1ACKO1	О	Acknowledge signal output to the AV decoder
5	GND00		Ground terminal (digital system)
6	RESET_NI	I	Reset signal input from the system controller "L": reset
7	GND01	_	Ground terminal (digital system)
8	DSP1DIACKI	I	Audio clock signal input terminal Not used
9	GND02	_	Ground terminal (digital system)
10	DSP1DII	I	Digital audio data input from the DSP
11	IOVDD0	_	Power supply terminal (+3.3V) (digital system)
12	GND03	_	Ground terminal (digital system)
13	CVD01		Power supply terminal (+1.8V) (digital system)
14	PLL27_CLNI	I	PLL clock divider reset signal input terminal Not used
15	PLL_ENNI	I	PLL enable signal input terminal Not used
16	PLL_CLNI	I	PLL clock divider reset signal input terminal Not used
17	GND04		Ground terminal (digital system)
18	PLL_CLKO	O	PLL clock signal output terminal Not used
19	IOVDD1		Power supply terminal (+3.3V) (digital system)
20	PLL_AVDD	О	Power supply terminal (+3.3V) (analog system)
21	GND05		Ground terminal (digital system)
22	SCLKI	I	Clock (27 MHz) signal input from the clock generator
23	GND06		Ground terminal (digital system)
24	PLL_TST1I	I	Input terminal for the test (normally: fixed at "L")
25, 26	PLL_TST2I, PLL_TST3I	I	Input terminal for the test (normally: fixed at "H")
27	PLL_TST4I	I	Input terminal for the test (normally: fixed at "L")
28	PLL_AVSS		Ground terminal (analog system)
29	IOVDD2		Power supply terminal (+3.3V) (digital system)
30	GND07		Ground terminal (digital system)
31	CVD02		Power supply terminal (+1.8V) (digital system)
32	DSP2DII	I	Digital audio data input from the DSP
33	GND08		Ground terminal (digital system)
34	DSP2DIACKI	I	Audio clock signal input terminal Not used
35	GND09		Ground terminal (digital system)
36 to 38	DSP2ACKO0 to DSP2ACKO2	О	Acknowledge signal output terminal Not used
39	IOVDD3	_	Power supply terminal (+3.3V) (digital system)
40	GND10	_	Ground terminal (digital system)
41	CVD03	_	Power supply terminal (+1.8V) (digital system)
42	DSP2LRCKO	O	L/R sampling clock output to the D/A converter and digital audio processor
43	DSP2BCKO	O	Bit clock output to the D/A converter and digital audio processor
44	DSP2EMPO	O	Emphasis control signal output terminal Not used
45	DSP2DO	О	Digital audio data output to the digital audio processor
46	IOVDD4		Power supply terminal (+3.3V) (digital system)
47	GND11		Ground terminal (digital system)

Pin No.	Pin Name	I/O	Description
48	DSP2CH12O	О	Audio data (for front) output to the digital audio processor
49	DSP2CH34O	0	Audio data (for rear) output to the digital audio processor
50	DSP2CH56O	0	Audio data (for center and woofer) output to the digital audio processor
51	DSP2CH78O	0	Audio data output to the digital audio processor
52	CVD04	_	Power supply terminal (+1.8V) (digital system)
53	GND12		Ground terminal (digital system)
			Power supply terminal (+3.3V) (digital system)
54	IOVDD5 DSP2LRCKI		
55		I	L/R sampling clock input from the AV decoder
56	DSP2CH12I	I	Audio data (for front) input from the AV decoder
57	DSP2CH34I	I	Audio data (for rear) input from the AV decoder
58	DSP2CH56I	I	Audio data (for center and woofer) input from the AV decoder
59	DSP2EMPI	I	Emphasis control signal input terminal Not used
60	IOVDD6	_	Power supply terminal (+3.3V) (digital system)
61	GND13		Ground terminal (digital system)
62	CVD05		Power supply terminal (+1.8V) (digital system)
63	DSP2REQI	I	Request signal input terminal Not used
64	GND14	_	Ground terminal (digital system)
65	DSP2NMII	I	Non-maskable interrupt signal input terminal Not used
66	GND15	_	Ground terminal (digital system)
67	DSP2ACKI	I	Audio clock signal input from the clock generator
68	GND16	_	Ground terminal (digital system)
69	DSP2BCKI	I	Bit clock input from the AV decoder
70	GND17		Ground terminal (digital system)
71	IOVDD7	_	Power supply terminal (+3.3V) (digital system)
72	GND18		Ground terminal (digital system)
73	CVD06	_	Power supply terminal (+1.8V) (digital system)
	ADDR015 to		
74 to 77	ADDR018		Address signal output terminal Not used
78	IOVDD8	_	Power supply terminal (+3.3V) (digital system)
79	GND19	_	Ground terminal (digital system)
80 to 83	ADDR011 to ADDR014	_	Address signal output terminal Not used
84	IOVDD9		Power supply terminal (+3.3V) (digital system)
85	GND20		Ground terminal (digital system)
86	CVD07		Power supply terminal (+1.8V) (digital system)
87 to 90	ADDR07 to ADDR010	_	Address signal output terminal Not used
91	IOVDD10		Power supply terminal (+3.3V) (digital system)
92	GND21		Ground terminal (digital system)
93 to 96	ADDR03 to ADDR06	_	Address signal output terminal Not used
97	IOVDD11		Power supply terminal (+3.3V) (digital system)
98	GND22	_	Ground terminal (digital system)
99	CVD08		Power supply terminal (+1.8V) (digital system)
100 to 102	ADDR00 to ADDR02	_	Address signal output terminal Not used
103		О	Read enable signal output terminal. Not used
103	SRM_RDNO	U	Read enable signal output terminal Not used

Pin No.	Pin Name	I/O	Description
104	IOVDD12		Power supply terminal (+3.3V) (digital system)
105	GND23	_	Ground terminal (digital system)
106	SRM_WRNO	О	Write enable signal output terminal Not used
107	CMD_ACKNO	О	Interrupt signal output to the system controller
108	CMD_REQNO	О	Request signal output terminal Not used
109	DMA_ACKNO	О	Acknowledge signal output terminal Not used
110	IOVDD13		Power supply terminal (+3.3V) (digital system)
111	GND24	_	Ground terminal (digital system)
112	CVD09	_	Power supply terminal (+1.8V) (digital system)
113	STC_CLKI	I	System clock signal input terminal Not used
114	GND25	_	Ground terminal (digital system)
115	SH_CLKI	I	Serial clock input from the system controller
116	GND26	_	Ground terminal (digital system)
117	SH_SII	I	Serial data input from the system controller
118	SH_CSNI	I	Chip select signal input from the system controller
119	SH_SOO	О	Serial data output to the system controller
120	IOVDD14	_	Power supply terminal (+3.3V) (digital system)
121	GND27	_	Ground terminal (digital system)
122	CVD10		Power supply terminal (+1.8V) (digital system)
123, 124	DATAI00, DATAI01	I/O	Two-way data bus terminal Not used
125	GND28		Ground terminal (digital system)
126, 127	DATAI02, DATAI03	I/O	Two-way data bus terminal Not used
128	IOVDD15	_	Power supply terminal (+3.3V) (digital system)
129	GND29	_	Ground terminal (digital system)
130, 131	DATAI04, DATAI05	I/O	Two-way data bus terminal Not used
132	GND30		Ground terminal (digital system)
133, 134	DATAI06, DATAI07	I/O	Two-way data bus terminal Not used
135	IOVDD16		Power supply terminal (+3.3V) (digital system)
136	GND31		Ground terminal (digital system)
137	CVD11	_	Power supply terminal (+1.8V) (digital system)
138	XSCAN	I	Scan mode signal input terminal Not used
139	TDO	0	Serial data output to the AV decoder
140	TDI	I	Serial data input from the digital audio processor
141	TMS	I	Mode selection signal input terminal
142	TRST	I	Reset signal input from the interface controller "L": reset
143	TCK	I	Clock signal input terminal
144	IOVDD17		Power supply terminal (+3.3V) (digital system)
145	GND32		Ground terminal (digital system)
146	CVD12		Power supply terminal (+1.8V) (digital system)
147	DSP1BCKI	I	Bit clock signal input from the AV decoder
148	GND33		Ground terminal (digital system)
149	DSP1ACKI	I	Audio clock signal input from the clock generator
150	GND34	_	Ground terminal (digital system)

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Pin No.	Pin Name	I/O	Description
151	DSP1NMII	I	Non-maskable interrupt signal input terminal Not used
152	GND35	_	Ground terminal (digital system)
153	DSP1REQI	I	Request signal input terminal Not used
154	IOVDD18		Power supply terminal (+3.3V) (digital system)
155	GND36		Ground terminal (digital system)
156	CVD13		Power supply terminal (+1.8V) (digital system)
157	DSP1EMPI	I	Emphasis control signal input terminal Not used
158	DSP1CH56I	I	Audio data (for center and woofer) input from the AV decoder
159	DSP1CH34I	I	Audio data (for rear) input from the AV decoder
160	DSP1CH12I	I	Audio data (for front) input from the AV decoder
161	DSP1LRCKI	I	L/R sampling clock signal input from the AV decoder
162	IOVDD19		Power supply terminal (+3.3V) (digital system)
163	GND37		Ground terminal (digital system)
164	CVD14		Power supply terminal (+1.8V) (digital system)
165	DSP1CH78O	0	Audio data output terminal Not used
166	DSP1CH56O	0	Audio data (for center and woofer) output terminal Not used
167	DSP1CH34O	0	Audio data (for rear) output terminal Not used
168	DSP1CH12O	О	Audio data (for front) output terminal Not used
169	IOVDD20		Power supply terminal (+3.3V) (digital system)
170	GND38		Ground terminal (digital system)
171	DSP1DO	О	Digital audio data output terminal Not used
172	DSP1EMPO	0	Emphasis control signal output terminal Not used
173	DSP1BCKO	0	Bit clock signal output terminal Not used
174	DSP1LRCKO	О	L/R sampling clock signal output terminal Not used
175	IOVDD21		Power supply terminal (+3.3V) (digital system)
176	GND39		Ground terminal (digital system)

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1	Pin No.	Pin Name	I/O	Description
2	1	OVDD	_	
3	2	CLKI	I	
4				
5, 6         P10, P11         1         Digital video signal input terminal Not used           7 to 14         P12 to P19         1         Digital video signal input from the AV decoder           15         NHSI         1         Horizontal sync signal input terminal Not used           16         NNSI         1         Vertical sync signal input terminal Not used           17         OVSS         —         Ground terminal (for digital system)           18         IVSS         —         Ground terminal (for digital system)           20         NVSO         O         Vertical sync signal output terminal Not used           21         NHSI         O         Horizontal sync signal output terminal Not used           22 to 25         PO9 to PO6         O         Digital video signal output to the D/A converter           26         OVDD         —         Power supply terminal (for digital system)           27         OVSS         —         Ground terminal (for digital system)           33         PO5 to PO2         O         Digital video signal output to the D/A converter           34         TEST0         1         Input terminal (for digital system)           35         OVSS         —         Ground terminal (for digital system)           36         OVDD </td <td></td> <td></td> <td></td> <td>•</td>				•
7 to 14         P12 to P19         I         Digital video signal input from the AV decoder           15         NHS1         I         Horizontal syne signal input terminal         Not used           16         NVS1         I         Vertical syne signal input terminal         Not used           17         OVSS         —         Ground terminal (for digital system)           18         IVSS         —         Ground terminal (for digital system)           19         CVSS         —         Ground terminal (for digital system)           20         NVSO         O         Vertical syne signal output terminal         Not used           21         NHSI         O         Horizontal syne signal output terminal         Not used           22 to 25         PO9 to PO6         O         Digital video signal output to the D/A converter           26         OVDD         —         Power supply terminal (+3.3V)           27         OVSS         —         Ground terminal (for digital system)           28 to 31         PO5 to PO2         O         Digital video signal output terminal Not used           34         TEST0         I Input terminal for the test (normally: fixed at "L")           35         OVSS         —         Ground terminal (for digital system)	-			
15	-			
16	-			
17         OVSS         — Ground terminal (for digital system)           18         IVSS         — Ground terminal (for digital system)           19         CVSS         — Ground terminal (for digital system)           20         NVSO         O Vertical syne signal output terminal Not used           21         NHSI         O Horizontal syne signal output terminal Not used           22 to 25         PO9 to PO6         O Digital video signal output to the D/A converter           26         OVDD         — Power supply terminal (for digital system)           27         OVSS         — Ground terminal (for digital system)           28 to 31         PO5 to PO2         O Digital video signal output terminal Not used           32, 23         PO1, PO0         O Digital video signal output terminal Not used           34         TEST0         I Input terminal (for digital system)           36         OVDD         — Power supply terminal (for digital system)           37         CVDD         — Power supply terminal (for digital system)           38, 39         TEST1, TEST2         I Input terminal for the test (normally: fixed at "L")           40         CLKO         I Clock signal (27 MHz) output to the D/A converter           41 to 45         Y09 to Y05         O Y (tuminance) digital video signal output to the D/A converter	-			· · · · · · · · · · · · · · · · · · ·
18				
19				
20         NVSO         0         Vertical sync signal output terminal         Not used           21         NHSI         0         Horizontal sync signal output terminal         Not used           22 to 25         PO9 to PO6         0         Digital video signal output to the D/A converter           26         OVDD         —         Power supply terminal (+3.3V)           27         OVSS         —         Ground terminal (for digital system)           28 to 31         PO5 to PO2         0         Digital video signal output to the D/A converter           32, 33         PO1, PO0         0         Digital video signal output to the D/A converter           34         TEST0         1         Input terminal for the test (normally: fixed at "L")           35         OVSS         —         Ground terminal (for digital system)           36         OVDD         —         Power supply terminal (+2.5 V)           38, 39         TEST1, TEST2         1         Input terminal for the test (normally: fixed at "L")           40         CLKO         1         Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YO5         0         Y (uminance) digital video signal output to the D/A converter           48 to 52         YO4 to YO0         O         Y (				
21         NHSI         O         Horizontal sync signal output terminal         Not used           22 to 25         PO9 to PO6         O         Digital video signal output to the D/A converter           26         OVDD         — Power supply terminal (+3,3V)           27         OVSS         — Ground terminal (for digital system)           28 to 31         PO5 to PO2         O         Digital video signal output to the D/A converter           32, 33         PO1, PO0         O         Digital video signal output terminal         Not used           34         TESTO         I         Input terminal for the test (normally: fixed at "L")           35         OVSS         — Ground terminal (for digital system)           36         OVDD         — Power supply terminal (+2.5V)           38, 39         TEST1, TEST2         I         Input terminal for the test (normally: fixed at "L")           40         CLKO         I         Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YO5         O         Y (luminance) digital video signal output to the D/A converter           48 to 52         YO4 to YO0         O         Y (luminance) digital video signal output to the D/A converter           53         OVDD         — Power supply terminal (+3.3V)           54 CVSS </td <td></td> <td></td> <td>_</td> <td></td>			_	
22 to 25         PO9 to PO6         O         Digital video signal output to the D/A converter           26         OVDD         —         Power supply terminal (1st digital system)           27         OVSS         —         Ground terminal (for digital system)           28 to 31         PO5 to PO2         O         Digital video signal output to the D/A converter           32, 33         PO1, PO0         O         Digital video signal output to the D/A converter           35         OVSS         —         Ground terminal (for digital system)           36         OVDD         —         Power supply terminal (+2.5 V)           38, 39         TEST1, TEST2         I         Input terminal for the test (normally: fixed at "L")           40         CLKO         I         Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YO5         O         Y (luminance) digital video signal output to the D/A converter           46         OVDD         —         Power supply terminal (+3.3V)           47         OVSS         —         Ground terminal (for digital system)           48 to 52         YO4 to YO0         Y (luminance) digital video signal output to the D/A converter           53         OVDD         —         Power supply terminal (+3.3V)	-			
26         OVDD         — Power supply terminal (+3.3V)           27         OVSS         — Ground terminal (for digital system)           28 to 31         POS to PO2         O Digital video signal output to the D/A converter           32, 33         PO1, PO0         O Digital video signal output terminal Not used           34         TESTO         I Input terminal for the test (normally: fixed at "L")           35         OVSS         — Ground terminal (for digital system)           36         OVDD         — Power supply terminal (+3.3V)           37         CVDD         — Power supply terminal (+2.5V)           38, 39         TEST1, TEST2         I Input terminal for the test (normally: fixed at "L")           40         CLKO         I Clock signal (27 MHz) output to the D/A converter           41 to 45         Y09 to Y05         O Y (luminance) digital video signal output to the D/A converter           46         OVDD         — Power supply terminal (+3.3V)           47         OVSS         — Ground terminal (for digital system)           48 to 52         Y04 to Y00         O Y (luminance) digital video signal output to the D/A converter           53         OVDD         — Power supply terminal (+3.3V)           54         CVSS         — Ground terminal (for digital system)           55				
27         OVSS         — Ground terminal (for digital system)           28 to 31         PO5 to PO2         O Digital video signal output to the D/A converter           32, 33         PO1, PO0         O Digital video signal output terminal Not used           34         TEST0         I Input terminal for the test (normally: fixed at "L")           35         OVSS         — Ground terminal (for digital system)           36         OVDD         — Power supply terminal (+2.5V)           37         CVDD         — Power supply terminal (+2.5V)           38, 39         TEST1, TEST2         I Input terminal for the test (normally: fixed at "L")           40         CLKO         I Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YOS         O Y (luminance) digital video signal output to the D/A converter           46         OVDD         — Power supply terminal (+3.3V)           48 to 52         YO4 to YOO         O Y (luminance) digital video signal output to the D/A converter           53         OVDD         — Power supply terminal (+3.3V)           54         CVSS         — Ground terminal (for digital system)           55         OVSS         — Ground terminal (for digital system)           56 to 60         CO0 to CO4         O C (chroma) digital video signal output to the D/A converter				
28 to 31         PO5 to PO2         O         Digital video signal output to the D/A converter           32, 33         PO1, PO0         O         Digital video signal output terminal Not used           34         TESTO         I         Input terminal for the test (normally: fixed at "L")           35         OVSS         —         Ground terminal (for digital system)           36         OVDD         —         Power supply terminal (+3.3V)           37         CVDD         —         Power supply terminal (+2.5V)           38, 39         TEST1, TEST2         I         Input terminal for the test (normally: fixed at "L")           40         CLKO         I         Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YO5         O         Y (luminance) digital video signal output to the D/A converter           46         OVDD         —         Power supply terminal (+3.3V)           47         OVSS         —         Ground terminal (for digital system)           48 to 52         YO4 to YO0         O         Y (luminance) digital video signal output to the D/A converter           53         OVDD         —         Power supply terminal (+3.3V)           54         CVSS         —         Ground terminal (for digital system)				
32, 33 PO1, PO0 O Digital video signal output terminal Not used  34 TESTO I Input terminal for the test (normally: fixed at "L")  35 OVSS — Ground terminal (for digital system)  36 OVDD — Power supply terminal (+3.3V)  37 CVDD — Power supply terminal (+2.5V)  38, 39 TEST1, TEST2 I Input terminal for the test (normally: fixed at "L")  40 CLKO I Clock signal (27 MHz) output to the D/A converter  41 to 45 YO9 to YO5 O Y (luminance) digital video signal output to the D/A converter  46 OVDD — Power supply terminal (+3.3V)  47 OVSS — Ground terminal (for digital system)  48 to 52 YO4 to YO0 O Y (luminance) digital video signal output to the D/A converter  53 OVDD — Power supply terminal (+3.3V)  54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W31F I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  79 OVSS — Ground terminal (for digital system)  70 OVSS — Power supply terminal (+3.3V)  71 OVDD — Power supply terminal (+3.3V)  72 OVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used			_	
34         TESTO         I         Input terminal for the test (normally: fixed at "L")           35         OVSS         —         Ground terminal (for digital system)           36         OVDD         —         Power supply terminal (+3.3V)           37         CVDD         —         Power supply terminal (+2.5V)           38, 39         TESTI, TEST2         I         Input terminal for the test (normally: fixed at "L")           40         CLKO         I         Clock signal (27 MHz) output to the D/A converter           41 to 45         YO9 to YO5         O         Y (luminance) digital video signal output to the D/A converter           46         OVDD         —         Power supply terminal (43.3V)           47         OVSS         —         Ground terminal (for digital system)           48 to 52         YO4 to YOO         O         Y (luminance) digital video signal output to the D/A converter           53         OVDD         —         Power supply terminal (43.3V)           54         CVSS         —         Ground terminal (for digital system)           55         OVSS         —         Ground terminal (for digital system)           61         OVDD         —         Power supply terminal (43.3V)           62         OVSS         —				
35         OVSS         — Ground terminal (for digital system)           36         OVDD         — Power supply terminal (+3.3V)           37         CVDD         — Power supply terminal (+2.5V)           38,39         TEST1, TEST2         I Input terminal for the test (normally: fixed at "L")           40         CLKO         I Clock signal (27 MHz) output to the D/A converter           41 to 45         Y09 to Y05         O Y (luminance) digital video signal output to the D/A converter           46         OVDD         — Power supply terminal (+3.3V)           47         OVSS         — Ground terminal (for digital system)           53         OVDD         — Power supply terminal (+3.3V)           54         CVSS         — Ground terminal (for digital system)           55         OVSS         — Ground terminal (for digital system)           56 to 60         CO0 to CO4         O C (chroma) digital video signal output to the D/A converter           61         OVDD         — Power supply terminal (+3.3V)           62         OVSS         — Ground terminal (for digital system)           63 to 67         CO5 to CO9         O C (chroma) digital video signal output to the D/A converter           68         FILM         O Film detection flag output terminal Not used           69         W3IF				
36 OVDD — Power supply terminal (+3.3V) 37 CVDD — Power supply terminal (+2.5V) 38,39 TEST1, TEST2 I Input terminal for the test (normally: fixed at "L") 40 CLKO I Clock signal (27 MHz) output to the D/A converter 41 to 45 YO9 to YO5 O Y (luminance) digital video signal output to the D/A converter 46 OVDD — Power supply terminal (+3.3V) 47 OVSS — Ground terminal (for digital system) 48 to 52 YO4 to YO0 O Y (luminance) digital video signal output to the D/A converter 53 OVDD — Power supply terminal (+3.3V) 54 CVSS — Ground terminal (for digital system) 55 OVSS — Ground terminal (for digital system) 56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter 61 OVDD — Power supply terminal (+3.3V) 62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W31F I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDS — Ground terminal (for digital system)			I	•
37 CVDD — Power supply terminal (+2.5V)  38,39 TEST1, TEST2 I Input terminal for the test (normally: fixed at "L")  40 CLKO I Clock signal (27 MHz) output to the D/A converter  41 to 45 YO9 to YO5 O Y (luminance) digital video signal output to the D/A converter  46 OVDD — Power supply terminal (+3.3V)  47 OVSS — Ground terminal (for digital system)  48 to 52 YO4 to YO0 O Y (luminance) digital video signal output to the D/A converter  53 OVDD — Power supply terminal (+3.3V)  54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W31F I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+3.3V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  79 OVSS — Ground terminal (for digital system)				
38,39       TEST1, TEST2       I       Input terminal for the test (normally: fixed at "L")         40       CLKO       I       Clock signal (27 MHz) output to the D/A converter         41 to 45       YO9 to YO5       O       Y (luminance) digital video signal output to the D/A converter         46       OVDD       —       Power supply terminal (+3.3V)         47       OVSS       —       Ground terminal (for digital system)         48 to 52       YO4 to YOO       O       Y (luminance) digital video signal output to the D/A converter         53       OVDD       —       Power supply terminal (+3.3V)         54       CVSS       —       Ground terminal (for digital system)         55       OVSS       —       Ground terminal (for digital system)         60       CO0 to CO4       O       C (chroma) digital video signal output to the D/A converter         61       OVDD       —       Power supply terminal (+3.3V)         62       OVSS       —       Ground terminal (for digital system)         63 to 67       CO5 to CO9       O       C (chroma) digital video signal output to the D/A converter         68       FILM       O       Film detection flag output terminal Not used         70       OVSS       —       Ground terminal (for digital		OVDD		
40 CLKO I Clock signal (27 MHz) output to the D/A converter 41 to 45 YO9 to YO5 O Y (luminance) digital video signal output to the D/A converter 46 OVDD — Power supply terminal (+3.3V) 47 OVSS — Ground terminal (for digital system) 48 to 52 YO4 to YOO O Y (luminance) digital video signal output to the D/A converter 53 OVDD — Power supply terminal (+3.3V) 54 CVSS — Ground terminal (for digital system) 55 OVSS — Ground terminal (for digital system) 56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter 61 OVDD — Power supply terminal (+3.3V) 62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal Not used 76 OVSS — Ground terminal Not used 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	37	CVDD		Power supply terminal (+2.5V)
41 to 45 YO9 to YOS O Y (luminance) digital video signal output to the D/A converter  46 OVDD — Power supply terminal (+3.3V)  47 OVSS — Ground terminal (for digital system)  48 to 52 YO4 to YOO O Y (luminance) digital video signal output to the D/A converter  53 OVDD — Power supply terminal (+3.3V)  54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	38, 39	TEST1, TEST2	I	Input terminal for the test (normally: fixed at "L")
46 OVDD — Power supply terminal (+3.3V)  47 OVSS — Ground terminal (for digital system)  48 to 52 YO4 to YO0 O Y (luminance) digital video signal output to the D/A converter  53 OVDD — Power supply terminal (+3.3V)  54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	40	CLKO	I	Clock signal (27 MHz) output to the D/A converter
47 OVSS — Ground terminal (for digital system) 48 to 52 YO4 to YO0 O Y (luminance) digital video signal output to the D/A converter 53 OVDD — Power supply terminal (+3.3V) 54 CVSS — Ground terminal (for digital system) 55 OVSS — Ground terminal (for digital system) 56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter 61 OVDD — Power supply terminal (+3.3V) 62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	41 to 45	YO9 to YO5	O	Y (luminance) digital video signal output to the D/A converter
48 to 52 YO4 to YOO O Y (luminance) digital video signal output to the D/A converter  53 OVDD — Power supply terminal (+3.3V)  54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  79 OVSS — Ground terminal (for digital system)  79 OVSS — Ground terminal (for digital system)  79 OVSS — Ground terminal (for digital system)  70 Two-way data bus terminal Not used	46	OVDD		Power supply terminal (+3.3V)
53 OVDD — Power supply terminal (+3.3V) 54 CVSS — Ground terminal (for digital system) 55 OVSS — Ground terminal (for digital system) 56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter 61 OVDD — Power supply terminal (+3.3V) 62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	47	OVSS		Ground terminal (for digital system)
54 CVSS — Ground terminal (for digital system)  55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	48 to 52	YO4 to YO0	О	Y (luminance) digital video signal output to the D/A converter
55 OVSS — Ground terminal (for digital system)  56 to 60 CO0 to CO4 O C (chroma) digital video signal output to the D/A converter  61 OVDD — Power supply terminal (+3.3V)  62 OVSS — Ground terminal (for digital system)  63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	53	OVDD		Power supply terminal (+3.3V)
56 to 60       CO0 to CO4       O       C (chroma) digital video signal output to the D/A converter         61       OVDD       —       Power supply terminal (+3.3V)         62       OVSS       —       Ground terminal (for digital system)         63 to 67       CO5 to CO9       O       C (chroma) digital video signal output to the D/A converter         68       FILM       O       Film detection flag output terminal Not used         69       W3IF       I       MPU interface communication protocol selection signal input terminal Not used         70       OVSS       —       Ground terminal (for digital system)         71       CVDD       —       Power supply terminal (+2.5V)         72       IVDD       —       Power supply terminal (+3.3V)         73       OVDD       —       Power supply terminal (+3.3V)         74 to 77       MD19 to MD16       I/O       Two-way data bus terminal Not used         78       OVDD       —       Power supply terminal (+3.3V)         79       OVSS       —       Ground terminal (for digital system)	54	CVSS	_	Ground terminal (for digital system)
61 OVDD — Power supply terminal (+3.3V) 62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	55	OVSS	_	Ground terminal (for digital system)
62 OVSS — Ground terminal (for digital system) 63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter 68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	56 to 60	CO0 to CO4	О	C (chroma) digital video signal output to the D/A converter
63 to 67 CO5 to CO9 O C (chroma) digital video signal output to the D/A converter  68 FILM O Film detection flag output terminal Not used  69 W3IF I MPU interface communication protocol selection signal input terminal Not used  70 OVSS — Ground terminal (for digital system)  71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	61	OVDD	_	Power supply terminal (+3.3V)
68 FILM O Film detection flag output terminal Not used 69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	62	OVSS		Ground terminal (for digital system)
69 W3IF I MPU interface communication protocol selection signal input terminal Not used 70 OVSS — Ground terminal (for digital system) 71 CVDD — Power supply terminal (+2.5V) 72 IVDD — Power supply terminal (+3.3V) 73 OVDD — Power supply terminal (+3.3V) 74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used 78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	63 to 67	CO5 to CO9	О	C (chroma) digital video signal output to the D/A converter
70       OVSS       —       Ground terminal (for digital system)         71       CVDD       —       Power supply terminal (+2.5V)         72       IVDD       —       Power supply terminal (+3.3V)         73       OVDD       —       Power supply terminal (+3.3V)         74 to 77       MD19 to MD16       I/O       Two-way data bus terminal Not used         78       OVDD       —       Power supply terminal (+3.3V)         79       OVSS       —       Ground terminal (for digital system)	68	FILM	О	Film detection flag output terminal Not used
71 CVDD — Power supply terminal (+2.5V)  72 IVDD — Power supply terminal (+3.3V)  73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	69	W3IF	I	MPU interface communication protocol selection signal input terminal Not used
72     IVDD     —     Power supply terminal (+3.3V)       73     OVDD     —     Power supply terminal (+3.3V)       74 to 77     MD19 to MD16     I/O     Two-way data bus terminal Not used       78     OVDD     —     Power supply terminal (+3.3V)       79     OVSS     —     Ground terminal (for digital system)	70	OVSS	_	Ground terminal (for digital system)
73 OVDD — Power supply terminal (+3.3V)  74 to 77 MD19 to MD16 I/O Two-way data bus terminal Not used  78 OVDD — Power supply terminal (+3.3V)  79 OVSS — Ground terminal (for digital system)	71	CVDD	_	Power supply terminal (+2.5V)
73     OVDD     —     Power supply terminal (+3.3V)       74 to 77     MD19 to MD16     I/O     Two-way data bus terminal Not used       78     OVDD     —     Power supply terminal (+3.3V)       79     OVSS     —     Ground terminal (for digital system)	72	IVDD	_	Power supply terminal (+3.3V)
74 to 77     MD19 to MD16     I/O     Two-way data bus terminal Not used       78     OVDD     —     Power supply terminal (+3.3V)       79     OVSS     —     Ground terminal (for digital system)	73	OVDD	_	
78 OVDD — Power supply terminal (+3.3V) 79 OVSS — Ground terminal (for digital system)	74 to 77	MD19 to MD16	I/O	
79 OVSS — Ground terminal (for digital system)				· · · · · · · · · · · · · · · · · · ·
ου ιο 65   IVIAZ IO IMAS   U   Address signal output to the SD-KAM	80 to 83	MA2 to MA5	О	Address signal output to the SD-RAM

Pin No.	Pin Name	I/O	Description
84	OVDD		Power supply terminal (+3.3V)
85	OVSS		Ground terminal (for digital system)
86 to 89	MA0, MA1, MA6, MA7	О	Address signal output to the SD-RAM
90	OVSS		Ground terminal (for digital system)
91	IVSS		Ground terminal (for digital system)
92	CVSS		Ground terminal (for digital system)
93	OVDD		Power supply terminal (+3.3V)
94 to 97	MA8 to MA11	O	Address signal output to the SD-RAM
98	OVDD		Power supply terminal (+3.3V)
99	OVSS		Ground terminal (for digital system)
100	RAS	О	Row address strobe signal output to the SD-RAM
101	CKE	О	Clock enable signal output terminal Not used
102	CAS	О	Column address strobe signal output to the SD-RAM
103	MCLK	O	Clock signal (54 MHz) output to the SD-RAM
104	WE	О	Write enable signal output to the SD-RAM
105, 106	TEST3, TEST4	I	Input terminal for the test (normally: fixed at "L")
107	OVSS	_	Ground terminal (for digital system)
108	OVDD	_	Power supply terminal (+3.3V)
109	CVDD		Power supply terminal (+2.5V)
110 to 113	MD7 to MD9	I/O	Two-way data bus with the SD-RAM
114	OVDD	_	Power supply terminal (+3.3V)
115	OVSS	_	Ground terminal (for digital system)
116 to 119	MD4, MD5, MD10, MD11	I/O	Two-way data bus with the SD-RAM
120	OVDD		Power supply terminal (+3.3V)
121	OVSS		Ground terminal (for digital system)
122 to 125	MD2, MD3, MD12, MD13	I/O	Two-way data bus with the SD-RAM
126	OVSS		Ground terminal (for digital system)
127	CVSS		Ground terminal (for digital system)
128	OVDD	_	Power supply terminal (+3.3V)
129 to 132	MD0, MD1, MD14, MD15	I/O	Two-way data bus with the SD-RAM
133	SLV	I	MPU interface slave address selection signal input terminal Not used
134	CSB	I	MPU interface chip select signal input terminal Not used
135	SDA	I/O	Two-way data bus with the EEPROM, system controller and D/A converter
136	SCL	I	Clock signal input from the system controller
137	SRN	I	Reset signal input from the system controller "L": reset
138	OVSS		Ground terminal (for digital system)
139	CVDD		Power supply terminal (+2.5V)
140	PLL_VDD		Power supply terminal (+2.5V) (for PLL)
141	CPOUT	0	PLL charge pump output terminal
142	VCOIN	I	PLL external loop filter input terminal
143	PLL_GND	_	Ground terminal (for PLL)
144	IVDD		Power supply terminal (+3.3V)

### • MB BOARD IC701 CXD9705R (MECHANISM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	HD15	I/O	Two-way data bus terminal
2	VSS	_	Ground terminal
3 to 9	HD14 to HD8	I/O	Two-way data bus terminal
10, 11	HA19, HA4	О	Address signal output terminal
12	VSS	_	Ground terminal
13 to 16	HA3 to HA0	О	Address signal output terminal
17	XGAIT	О	Interrupt signal output to the system controller
18	XWR	I	Write enable signal input from the system controller
19	XRD	I	Read enable signal input from the system controller
20	XGACS	I	Chip select signal input from the system controller
21	WOBBLE	I	Not used
22	ADVDD		Power supply terminal (+3.3V)
23	VSS		Ground terminal
24	CPUCK	I	Master clock (33 MHz) input from the system controller
25	TSENS2	I	Table position sensor 2 input terminal
26	TSENS4	I	Table position sensor 4 input terminal
27	LD_IN	I	Loading detect switch input terminal "L": loading in
28	LD_OUT	I	Loading detect switch input terminal "L": loading out
29	LOCK	I	Lock detect switch input terminal "L": lock
30	TSENS3	I	Table position sensor 3 input terminal
31	TSENS1	I	Table position sensor 1 input terminal
32	(NC)	I	Not used
33	VDD	_	Power supply terminal (+3.3V)
34	XRST	I	Reset signal input from the system controller "L": reset
35	VPD	_	Not used
36	POPUP	I	Pop detect switch input terminal "L": pop up
37	POPDOWN	I	Pop detect switch input terminal "L": pop down
38	DR_OP	I	Door detect switch input terminal "L": door open
39	DR_CLS	I	Door detect switch input terminal "L": door close
40	ADVDD2	_	Power supply terminal (+3.3V)
41	TRST	I	Reset signal input from the interface controller "L": reset
42	VSS		Ground terminal
43	TCK	I	Clock signal input terminal
44	TMS	I	Mode selection signal input terminal
45	TDI	I	Serial data input terminal
46	NFBUSY	I	Busy signal input from the nand flash memory
47	ADVDD3		Power supply terminal (+3.3V)
48	NFCE	О	Chip enable signal output to the nand flash memory
49	NFCLE	О	Command latch enable signal output to the nand flash memory
50	NFALE	О	Address latch enable signal output to the nand flash memory
51	NFWP	О	Write protect signal output to the nand flash memory
52	VSS		Ground terminal
53	NFRE	О	Read enable signal output to the nand flash memory
54	NFWE	О	Write enable signal output to the nand flash memory
55	NFTEST	О	Test mode selection signal output to the nand flash memory

## **DVP-CX777ES**

Pin No.	Pin Name	I/O	Description
56	(NC)	О	Not used
57	XADYCS	О	Chip select signal output to the digital audio processor
58	XESCS	О	Chip select signal output terminal Not used
59, 60	(NC)	О	Not used
61	TESTI	I	Input terminal for the test (normally: fixed at "L")
62	TESTO5	О	Output terminal for the test
63	VSS		Ground terminal
64 to 68	TESTO4 to TESTO0	О	Output terminal for the test
69	LDM+	О	Loading motor drive signal output terminal
70	LDM-	О	Loading motor drive signal output terminal
71	DRM+	О	Door motor drive signal output terminal
72	DRM-	О	Door motor drive signal output terminal
73	VDD		Power supply terminal (+3.3V)
74	DIMMO	О	LED drive signal output for the illumination "H": LED on
75	DSEN_OUT	О	Not used
76	HH_OUT	О	Not used
77	TRM-	О	Table motor drive signal output terminal
78	TRM+	О	Table motor drive signal output terminal
79	TDO	О	Serial data output to the DSP
80	ADVDD4	_	Power supply terminal (+3.3V)

### • MB BOARD IC801 CXD9722ATQ (DIGITAL AUDIO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1 to 5	D1 to D5	I/O	Two-way data bus with the SD-RAM
6	VDD		Power supply terminal (+3.3V)
7, 8	D6, D7	I/O	Two-way data bus with the SD-RAM
9	VSS		Ground terminal
10	WE	О	Write enable signal output to the SD-RAM
11	CAS	О	Column address strobe signal output to the SD-RAM
12	RAS	О	Row address strobe signal output to the SD-RAM
13	CS	О	Chip select signal output to the SD-RAM
14	CLK	О	Clock signal output to the SD-RAM
15	CKE	О	Clock enable signal output to the SD-RAM
16	VDD		Power supply terminal (+3.3V)
17 to 22	A11, A10, A0 to A3	О	Address signal output to the SD-RAM
23	VSS	_	Ground terminal
24 to 29	A9 to A4	O	Address signal output to the SD-RAM
30	VSS		Ground terminal
31	DRSO	O	DSD data (for rear R-ch) output to the D/A converter
32	DLSO	О	DSD data (for rear L-ch) output to the D/A converter
33	DEXRO	О	Not used
34	DLFEO	О	DSD data (for woofer) output to the D/A converter
35	DCO	О	DSD data (for center) output to the D/A converter
36	VDD	_	Power supply terminal (+3.3V)
37	DRO	О	DSD data (for front R-ch) output to the D/A converter
38	DLO	О	DSD data (for front L-ch) output to the D/A converter
39	VSS		Ground terminal
40	DMRO	О	DSD data output for R-ch down mix to the D/A converter
41	DMLO	O	DSD data output for L-ch down mix to the D/A converter
42	VSS		Ground terminal
43	VDD		Power supply terminal (+3.3V)
44	DLDRO	O	Audio data output to the D/A converter
45	CSWO	O	Audio data (for center and woofer) output to the D/A converter
46	SLSRO	О	Audio data (for rear) output to the D/A converter
47	FLFRO	О	Audio data (for front) output to the D/A converter
48	VSS		Ground terminal
49	SPDIFO	O	Digital audio data output terminal
50	TEST1	I	Input terminal for the test
51	TRST	I	Reset signal input from the interface controller "L": reset
52	TMS	I	Mode selection signal input terminal
53	TCK	I	Clock signal input terminal
54	TDI	I	Serial data signal input from the DSD decoder
55	TDO	О	Serial data signal output to the audio DSP
56	TEST2	I	Input terminal for the test
57	SPDIFI	I	Digital audio data input from the audio DSP
58	VSS		Ground terminal
59	LRCKI	I	L/R sampling clock signal input from the audio DSP
60	BCKI	I	Bit clock signal input from the audio DSP

## **DVP-CX777ES**

Pin No.	Pin Name	I/O	Description
61	VDD	_	Power supply terminal (+3.3V)
62	VSS	_	Ground terminal
63	DLDRI	I	Audio data input from the audio DSP
64	CSWI	I	Audio data (for center and woofer) input from the audio DSP
65	SLSRI	I	Audio data (for rear) input from the audio DSP
66	FLFRI	I	Audio data (for front) input from the audio DSP
67	TEST3	I	Input terminal for the test
68	CLK512	I	Master clock (27 MHz) input from the clock generator
69	VSS	_	Ground terminal
70	XRST	I	Reset signal input from the system controller "L": reset
71	VDD	_	Power supply terminal (+3.3V)
72	SCLK	I	Serial clock signal input from the system controller
73	XCS	I	Chip select signal input from the mechanism controller
74	SI	I	Serial data input from the system controller
75	SO	О	Serial data output to the system controller
76	DEXRI	I	Not used
77	DMLI	I	DSD data input for L-ch down mix to the DSD decoder
78	DMRI	I	DSD data input for R-ch down mix to the DSD decoder
79	VSS	_	Ground terminal
80	PHAI	I	Clock signal input from DSD decoder
81	BCKAI	I	Bit clock signal input for DSD data output from DSD decoder
82	DQM	О	Not used
83	DLI	I	DSD data (for front L-ch) input from DSD decoder
84	DRI	О	DSD data (for front R-ch) input from DSD decoder
85	DCI	О	DSD data (for center) input from DSD decoder
86	DLFEI	О	DSD data (for woofer) input from DSD decoder
87	DLSI	О	DSD data (for rear L-ch) input from DSD decoder
88	DRSI	О	DSD data (for rear R-ch) input from DSD decoder
89	VSS	_	Ground terminal
90 to 95	D15 to D10	I/O	Two-way data bus with the SD-RAM
96	VDD		Power supply terminal (+3.3V)
97, 98	D9, D8	I/O	Two-way data bus with the SD-RAM
99	GND		Ground terminal
100	D0	I/O	Two-way data bus with the SD-RAM

### • MB BOARD IC905 CXD2753R (DSD DECODER)

Pin No.	Pin Name	I/O	Description
1	VSC	_	Ground terminal (for core)
2	XMSLAT	I	Chip select signal input from the system controller
3	MSCK	I	Serial clock signal input from the system controller
4	MSDATI	I	Serial data input from the system controller
5	VDC	_	Power supply terminal (+2.5V) (for core)
6	MSDATO	О	Serial data output to the system controller
7	MSREADY	О	Ready signal output to the system controller
8	XMSDOE	О	Serial data output enable signal output terminal Not used
9	XRST	I	Reset signal input from the system controller "L": reset
10	SMUTE	I	Soft muting control signal input from the system controller
11	MCKI	I	Master clock signal (33.8688 MHz) input from the clock generator
12	VSIO	_	Ground terminal (for I/O)
13, 14	EXCKO1, EXCKO2	0	External clock signal output terminal Not used
15	LRCK	О	L/R sampling clock signal output terminal Not used
16	FRAME	О	Not used
17	VDIO		Power supply terminal (+3.3V) (for I/O)
18 to 21	MNT0 to MNT7	О	Monitor signal output terminal Not used
22 to 25	TEST0	I	Input terminal for the test (normally: fixed at "L")
26	TCK	I	Clock signal input terminal
27	TDI	I	Serial data input from the DSP
28	VSC	_	Ground terminal (for core)
29	TDO	O	Serial data output to the digital audio processor
30	TMS	I	Selection signal input terminal
31	TRST	I	Reset signal input from the interface controller "L": reset
32 to 34	TEST1 to TEST3	I	Input terminal for the test (normally: fixed at "L")
35	VDC		Power supply terminal (+2.5V) (for core)
36	TESTO	О	Output terminal for the test
37	XBIT	О	Not used
38 to 41	SUPDT0 to SUPDT3	О	Supplementary data output terminal Not used
42	VSIO	_	Ground terminal (for I/O)
43, 44	SUPDT4, SUPDT5	О	Supplementary data output terminal Not used
45	VDIO	_	Power supply terminal (+3.3V) (for I/O)
46, 47	SUPDT6, SUPDT7	О	Supplementary data output terminal Not used
48	XSUPAK	О	Supplementary data acknowledge signal output terminal Not used
49	VSC	_	Ground terminal (for core)
50	DSAEXR	О	Not used
51, 52	TESTI	I	Input terminal for the test (normally: fixed at "L")
53	TESTO	О	Output terminal for the test
54	VDC	_	Power supply terminal (+2.5V) (for core)
55	DSADML	О	DSD data output for L-ch down mix to the digital audio processor
56	DSADMR	O	DSD data output for R-ch down mix to the digital audio processor
57	BCKASL	I	Input/output selection signal input terminal of bit clock signal for DSD data output "L": input (slave), "H": output (master) Fixed at "H" in this set

Pin No.	Pin Name	I/O	Description
58	VSDSD	_	Ground terminal (for DSD data output)
59	BCKAI	I	Bit clock signal input terminal for DSD data output Not used
60	BCKAO	О	Bit clock signal output for DSD data output to the digital audio processor
61	PHREFI	I	Clock signal input terminal for DSD data output Not used
62	PHREFO	О	Clock signal output to the D/A converter and digital audio processor
63	ZDFL	O	Zero data flag (for front L-ch) detection signal output terminal Not used
64	DSAL	O	DSD data (for front L-ch) output to the digital audio processor
65	ZDFR	O	Zero data flag (for front R-ch) detection signal output terminal Not used
66	DSAR	O	DSD data (for front R-ch) output to the digital audio processor
67	VDDSD	_	Power supply terminal (+3.3V) (for DSD data output)
68	ZDFC	O	Zero data flag (for center) detection signal output terminal Not used
69	DSAC	O	DSD data (for center) output to the digital audio processor
70	ZDFLFE	О	Zero data (for woofer) flag detection signal output terminal Not used
71	DSASW	O	DSD data (for woofer) output to the digital audio processor
72	VSDSD	_	Ground terminal (for DSD data output)
73	ZDFLS	О	Zero data flag (for rear L-ch) detection signal output terminal Not used
74	DSALS	O	DSD data (for rear L-ch) output to the digital audio processor
75	ZDFRS	О	Zero data flag (for rear R-ch) detection signal output terminal Not used
76	DSARS	О	DSD data (for rear R-ch) output to the digital audio processor
77	VDDSD		Power supply terminal (+3.3V) (For DSD data output)
78, 79	TESTO	О	Output terminal for the test
80	VSC		Ground terminal (for core)
81, 82	TESTO	О	Output terminal for the test
83	VDC		Power supply terminal (+2.5V) (for core)
84, 85	TESTO	О	Output terminal for the test
86	VSIO		Ground terminal (for I/O)
87	TESTO	О	Output terminal for the test
88, 89	TESTI	I	Input terminal for the test (normally: fixed at "L")
90	VDIO		Power supply terminal (+3.3V) (for I/O)
91 to 93	TESTO	O	Output terminal for the test
94	TESTI	I	Input terminal for the test (normally: fixed at "H")
95	TESTI	I	Input terminal for the test (normally: fixed at "L")
96	TESTI	I	Input terminal for the test (normally: fixed at "H")
97	TESTO	О	Output terminal for the test
98	IHOLD	О	Not used
99	VDC	_	Power supply terminal (+2.5V) (for core)
100 to 105		I	Input terminal for the test (normally: fixed at "L")
106	VSIO		Ground terminal (for I/O)
107 to 109		I	Input terminal for the test (normally: fixed at "L")
110	VDIO	_	Power supply terminal (+3.3V) (for I/O)
	WAD0 to WAD3	I	External A/D data input terminal for PSP physical disc mark detection Not used
115	VSIO	_	Ground terminal (for I/O)
116	VSC	_	Ground terminal (for core)
117 to 120		I	External A/D data input terminal for PSP physical disc mark detection Not used
121	VDC		Power supply terminal (+2.5V) (for core)
122	TESTI	I	Input terminal for the test (normally: fixed at "L")

Pin No.	Pin Name	I/O	Description
123	WCK	I	Operation clock signal input for PSP physical disc mark detection from the DSP
124, 125	WAVDD0, WAVDD1	_	A/D power supply terminal (+2.5V) (for PSP physical disc mark detection)
126	WARFI	I	Analog RF signal input for PSP physical disc mark detection from the RF amplifier
127	WAVRB	I	A/D bottom reference terminal for PSP physical disc mark detection
128, 129	WAVSS0, WAVSS1	_	A/D ground terminal (for PSP physical disc mark detection)
130	VSIO	_	Ground terminal (for I/O)
131 to 134	DQ7 to DQ4	I/O	Two-way data bus with the SD-RAM
135	VDIO	_	Power supply terminal (+3.3V) (for I/O)
136 to 139	DQ3 to DQ0	I/O	Two-way data bus with the SD-RAM
140	VSIOA3	_	Ground terminal (for I/O)
141	DCLK	О	Clock signal output to the SD-RAM
142	DCKE	О	Clock enable signal output to the SD-RAM
143	XWE	О	Write enable signal output to the SD-RAM
144	XCAS	О	Column address strobe signal output to the SD-RAM
145	XRAS	О	Row address strobe signal output to the SD-RAM
146	VDIO	_	Power supply terminal (+3.3V) (for I/O)
147	TESTO	О	Output terminal for the test
148, 149	A11, A10	О	Address signal output to the SD-RAM
150	VSC		Ground terminal (for core)
151, 152	A9, A8	О	Address signal output to the SD-RAM
153	VDC		Power supply terminal (+2.5V) (for core)
154 to 157	A7 to A4	О	Address signal output to the SD-RAM
158	VSIO	_	Ground terminal (for I/O)
159 to 162	A3 to A0	О	Address signal output to the SD-RAM
163	VDIO	_	Power supply terminal (+3.3V) (for I/O)
164	XSRQ	О	Stream data bus request signal output to the DSP
165	XSHD	I	Stream data bus header flag signal input from the DSP
166	SDCK	I	Stream data bus clock signal input from the DSP
167	XSAK	I	Stream data bus acknowledge signal input from the DSP
168	SDEF	I	Stream data bus error flag signal input from the DSP
169 to 176	SD0 to SD7	I	Stream data signal input from the DSP

### • PANEL-L BOARD IC1003 μPD70F3259YGF-S05-JBT-A (INTERFACE CONTROLLER)

Pin No.	Pin Name	I/O	Description
1, 2	KEY1, KEY0	I	Front panel key input terminal (A/D input)
3	AVDD		Power supply terminal (+3.3V)
4	AVSS	_	Ground terminal
5, 6	NC		Not used
7	AVREF	I	Reference voltage (+3.3V) input terminal
8	JOG A	I	Jog dial pulse input from the rotary encoder (DISC AMS, PUSH ENTER) (A phase input)
9	JOG B	I	Jog dial pulse input from the rotary encoder (DISC AMS, PUSH ENTER) (B phase input)
10	FLMD0	_	Flash write terminal
11	VDD	_	Power supply terminal (+3.3V)
12	REGC	_	Connected to the capacitor for the regulator
13	VSS	_	Ground terminal
14	X1	I	Main system clock input terminal (5 MHz)
15	X2	О	Main system clock output terminal (5 MHz)
16	RESET	I	System reset signal input from the reset signal generator "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
17	X1	I	Sub system clock input terminal Not used
18	X2	О	Sub system clock output terminal Not used
19	NC	_	Not used
20	KEY_INT	I	Wake up signal input terminal for front panel key
21	232C_INT	I	Wake up signal input terminal for RS-232C
22	DBUGRST	_	Not used
23	SYSCONCS	I	Chip select signal input from the system controller
24	SYSCONSIN	I	Serial data input from the system controller
25	SYSCONSOUT	О	Serial data output to the system controller
26	SYSCONSCLK	I	Serial clock signal input from the system controller
27	232COUT	О	Serial data output to the RS-232C
28	232CIN	I	Serial data input from the RS-232C
29, 30	NC	_	Not used
31	SIRCS	I	Remote control signal input terminal
32	CONTROL_S	О	S-LINK and CONTROL S output terminal
33	SYSCONBUSY	О	Interrupt signal output to the system controller
34	SYSCONRST	О	Reset signal output to the system controller, DSP, AV decoder, audio DSP, mechanism controller, digital audio processor and DSD decoder "L": reset
35	EVSS	_	Ground terminal
36	EVDD	_	Power supply terminal (+3.3V)
37 to 54	NC	_	Not used
55	VIDEO_OFF	О	Video power supply on/off control signal output terminal
56	FLDSDATA	О	Serial data output to the fluorescent indicator tube driver
57	FLDSCLK	О	Serial clock signal output to the fluorescent indicator tube driver
58	KBCIN	I	Serial clock signal input from the KEYBOARD
59	KBDIN	I	Serial data input from the KEYBOARD
60	SIRCS-WAKE	I	Wake up signal input terminal for SIRCS
61	FLDRST	О	Reset signal output to the fluorescent indicator tube driver "L": reset
62	FLDCS	О	Chip select signal output to the fluorescent indicator tube driver
63	FLHS	_	Flash write terminal

Pin No.	Pin Name	I/O	Description
64	CLKOUT	О	Clock signal output terminal Not used
65	NC	_	Not used
66	KBCOUT	О	Serial clock signal input stop signal output to the KEYBOARD
67	KBDOUT	О	Serial data input stop signal output to the KEYBOARD
68	AMUTE	О	Audio muting control signal output terminal
69	VMUTE	О	Video muting control signal output to the video amplifier
70	P_CONT	О	Power supply on/off control signal output terminal "H": power on
71	BVSS	_	Ground terminal
72	BVDD	_	Power supply terminal (+3.3V)
73	LED0	О	LED drive signal output of the PROGRESSIVE indicator "H": LED on
74	LED1	О	LED drive signal output of the SACD indicator "H": LED on
75	LED2	О	LED drive signal output of the MULTI CHANNEL indicator "H": LED on
76	LED3	О	LED drive signal output of the FL OFF indicator "H": LED on
77	LED4	О	LED drive signal output of the VIDEO OFF indicator "H": LED on
78	FLMD1	_	Flash write terminal
79, 80	NC	_	Not used
81	FL_CTRL	О	FLMOD (pin ®) control signal output terminal at the flash write
82 to 88	NC	_	Not used
89	LED4	О	LED drive signal output of the DISC CHANGE indicator "H": LED on
90	LED6	O	LED drive signal output of the DIRECT SEARCH indicator "H": LED on
91, 92	NC		Not used
93	SIRCS_MODE	I	COMMAND MODE switch input terminal
94	NO_USE		Not used
95	PON_CHECK	I	Power supply voltage input terminal
96	MODEL_SEL	I	Model selection signal input terminal
97	SELF_CHECK	I	Self-diagnosis mode selection signal input terminal
98 to 100	KEY4 to KEY2	I	Front panel key input terminal (A/D input)

# SECTION 8 EXPLODED VIEWS

#### NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:

KNOB, BALANCE (WHITE) . . . (RED)

↑ ↑

Parts Color Cabinet's Color

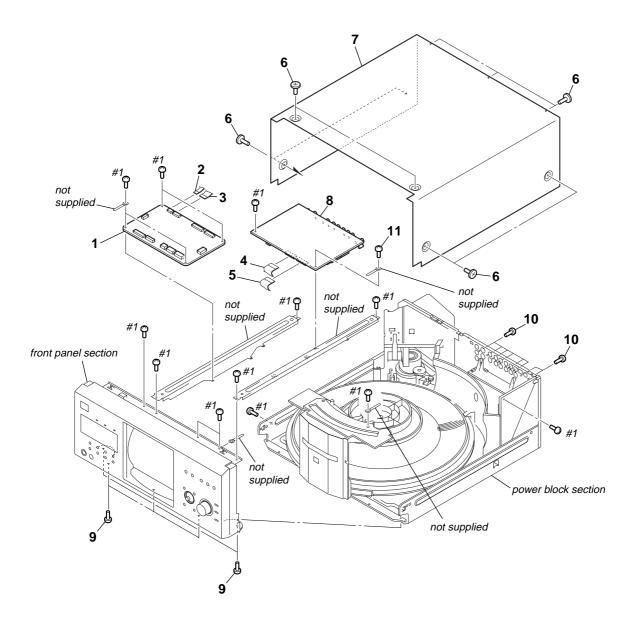
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  $\triangle$  sont critiquens pour la sécurité.

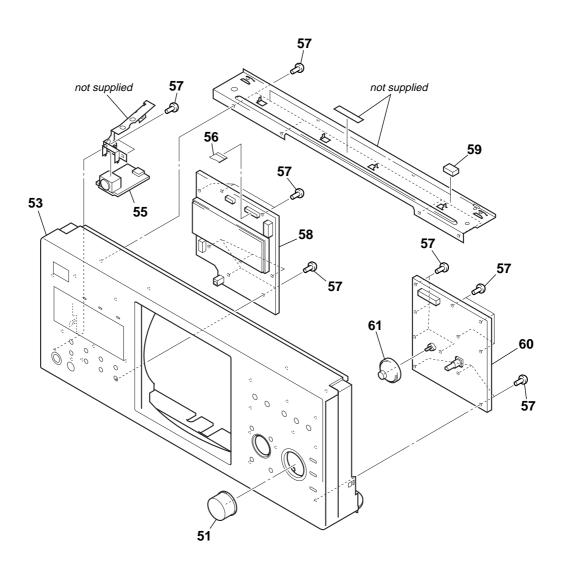
Ne les remplacer que par une pièce portant le numéro spécifié.

#### 8-1. OVERALL SECTION



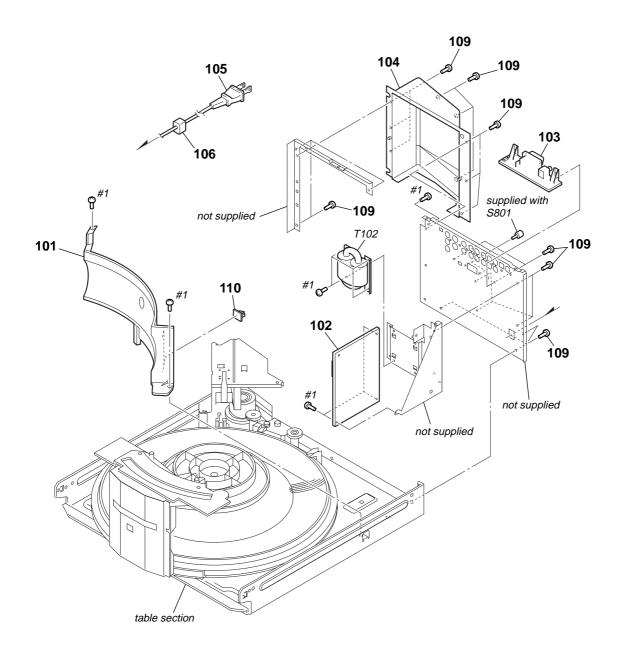
Ref. No.	Part No.	<u>Description</u>	Remark	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
1	A-4733-709-A	MB BOARD, COMPLETE		7	X-4955-691-1	CASE (ES) ASSY	
2	1-827-575-11	WIRE (FLAT TYPE) (9 CORE)		8	A-4733-699-A	AV BOARD, COMPLETE	
3	1-827-583-11	WIRE (FLAT TYPE) (26 CORE)		9	3-704-515-11	SCREW (BV/RING)	
4	1-827-585-11	WIRE (FLAT TYPE) (23 CORE)		10	3-704-515-21	SCREW (BV/RING)	
5	1-827-584-11	WIRE (FLAT TYPE) (27 CORE)		11	3-970-608-31	SUMITITE (B3), +BV	
6	4-227-843-11	SCREW (TP), FLAT HEAD		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

#### 8-2. FRONT PANEL SECTION



Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	Description	<u>Remark</u>
51 53 55 56 57	A-4738-462-A 1-688-454-11 1-827-576-11	KNOB (R28) ASSY PANEL ASSY, FRONT KEY BOARD WIRE (FLAT TYPE) (19 CORE) SCREW (2.6X8), +BVTP		58 59 60 61	4-985-553-21 A-4733-713-A	PANEL-L BOARD, COMPLETE CUSHION PANEL-R BOARD, COMPLETE KNOB (CURSOR)	

#### 8-3. POWER BLOCK SECTION

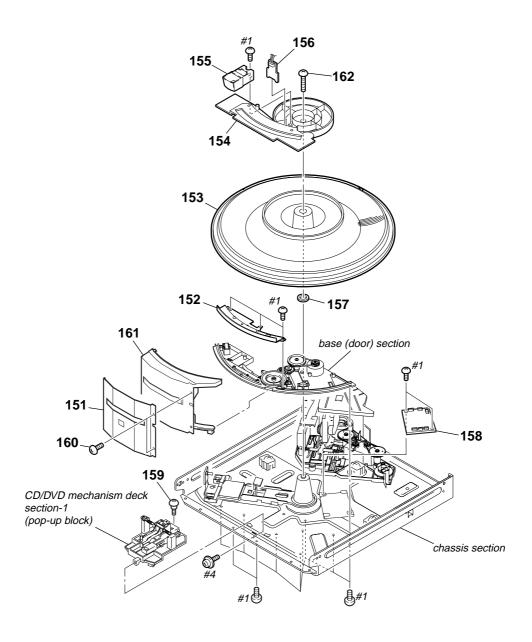


The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ∆ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

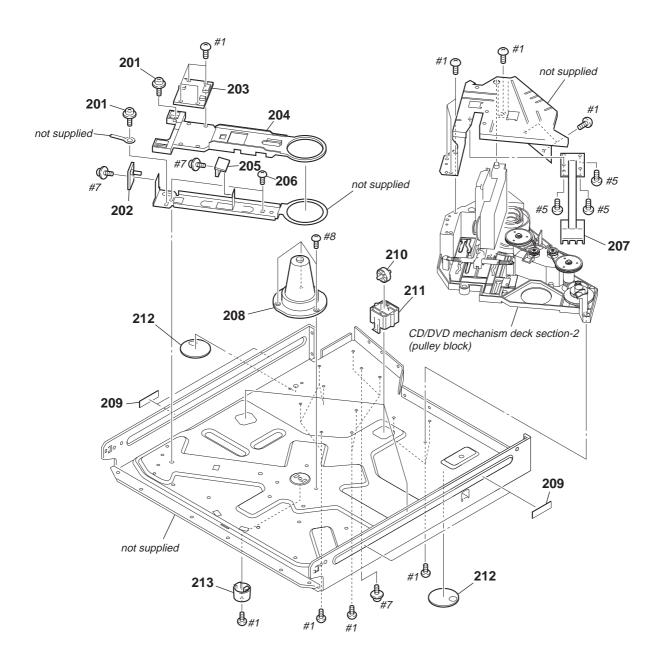
Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
101	4-226-841-02	COVER (PT)		* 106	3-703-244-00	BUSHING (2104), CORD	
102	1-477-957-11	POWER BLOCK (Including POWER BO	DARD)	109	3-704-515-21	SCREW (BV/RING)	
103	A-4733-703-A	RS-232C BOARD, COMPLETE		110	4-250-786-01	LOCKING WIRE SADDLE	
104	4-226-876-21	COVER (CDM)		<b>△</b> T102	1-437-496-21	TRANSFORMER, POWER	
<b>105 105</b>	1-783-531-32	CORD, POWER		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

#### 8-4. TABLE SECTION



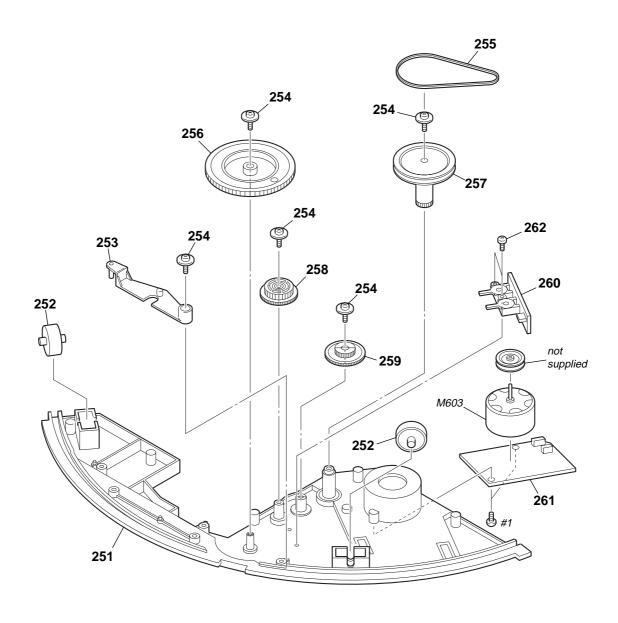
Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
151	X-4955-915-1	PANEL (DOOR) ASSY		158	A-4733-705-A	DRIVER BOARD, COMPLETE	
152	4-226-834-01	COVER (TABLE)		159	3-356-601-11	SCREW, STEP	
153	X-4952-500-2	TABLE (400) ASSY		160	4-951-620-01	SCREW (2.6X8), +BVTP	
154	4-226-833-05	GUIDE (DOOR)		161	X-4955-689-1	DOOR ASSY	
155	4-215-968-01	WINDOW (INTERNAL ILLUMINATION	)	162	3-703-136-31	SCREW (M3X14)	
156 157	A-4733-717-A 3-701-447-21	LED BOARD, COMPLETE WASHER, 10		#1 #4		SCREW +BVTP 3X8 TYPE2 IT-3 SCREW +PTPWH 3X6 (TYPE2)	

#### 8-5. CHASSIS SECTION



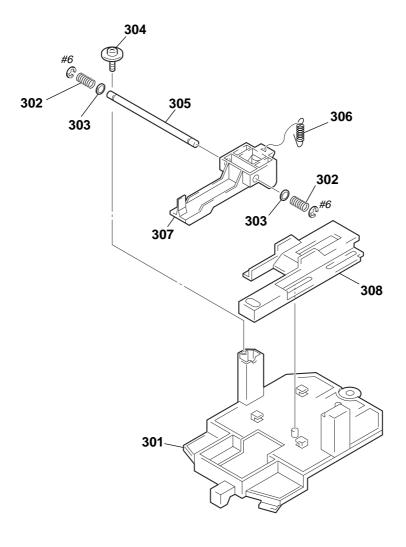
Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	Remark
201	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6		210	4-216-093-01	ROLLER	
202	1-688-453-11	D. SENS OUT BOARD		211	4-216-092-03	HOLDER (ROLLER)	
203	A-4733-707-A	SENSOR BOARD, COMPLETE		212	4-219-325-11	CUSHION (FOOT-L)	
204	4-225-873-01	HOLDER (TABLE SENSOR 400)		213	4-931-169-01	FOOT	
205	1-688-452-11	D. SENS IN BOARD		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
206	4-216-096-01	SCREW (T1), STEP		#5	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
207	4-216-088-02	GUIDE (DISC)		#7	7-682-948-01	SCREW +PSW 3X8	
208	4-216-089-02	SHAFT (CENTER)		#8	7-685-871-01	SCREW +BVTT 3X6	
* 209	3-378-400-01	CUSHION, SARANET					

## 8-6. BASE (DOOR) SECTION



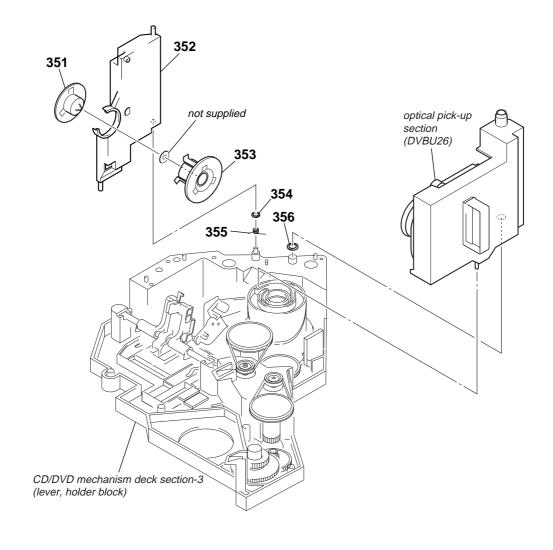
Ref. No.	Part No.	Description	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
251	4-226-827-02	BASE (DOOR DRIVING)		258	4-226-831-01	GEAR (B)	
252	4-216-093-01	ROLLER		259	4-226-830-01	GEAR (A)	
253	4-226-832-01	LEVER (PU JOINT)		260	1-688-450-11	DOOR SW BOARD	
254	4-933-134-11	SCREW (+PTPWH M2.6X8)		261	1-688-451-11	DOOR MOTOR BOARD	
255	4-219-326-01	BELT (DIA. 42X1.2)		262	4-951-620-01	SCREW (2.6X8), +BVTP	
256	4-226-828-02	GEAR (CAM)		M603	1-541-632-12	MOTOR, DC (DOOR)	
257	4-226-829-01	GEAR (PULLEY)		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

# 8-7. CD/DVD MECHANISM DECK SECTION-1 (POP-UP BLOCK)



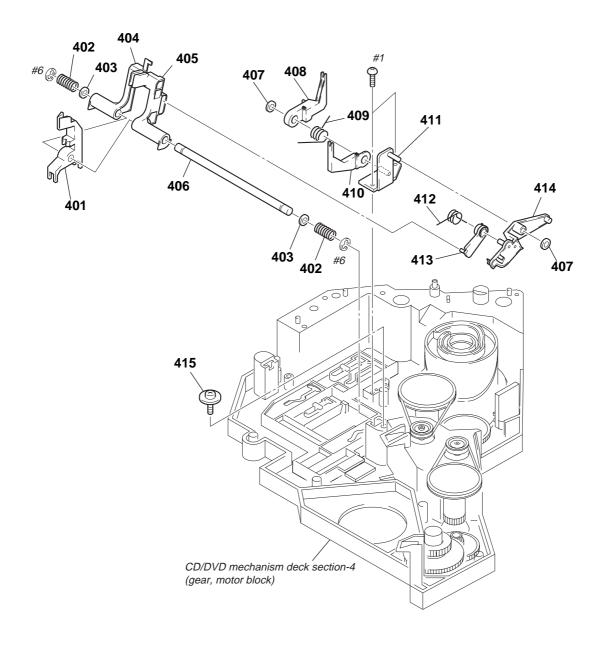
Ref. No.	Part No.	Description	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
301	4-216-100-02	HOLDER (POP-UP)		306	4-216-104-01	SPRING (POP-UP), TENSION	
302	4-216-103-01	SPRING (POP-UP), COMPRESSION		307	4-228-352-01	LEVER (POP-UP 400)	
303	3-701-441-21	WASHER		308	4-216-099-02	SLIDER (POP-UP)	
304	4-998-716-01	SCREW, BU FITTING		#6	7-624-106-04	STOP RING 3.0, TYPE -E	
305	4-216-102-01	SHAFT (POP-UP FULCRUM)					

# 8-8. CD/DVD MECHANISM DECK SECTION-2 (PULLEY BLOCK)

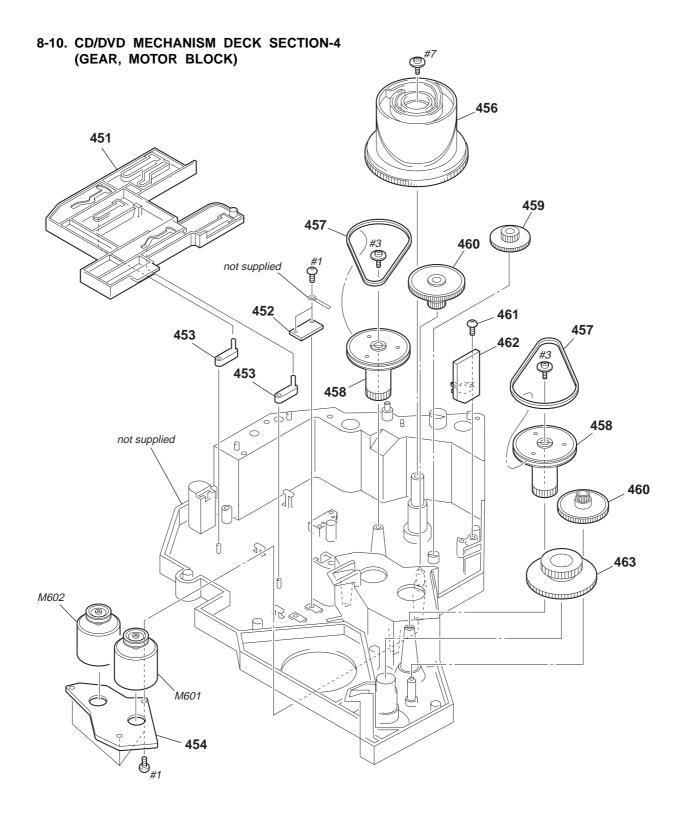


Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
351	4-245-983-01	PULLEY (A)		354	3-701-441-21	WASHER	
352	4-216-082-11	HOLDER (MAGNET), TORSION		355	4-216-081-01	SPRING (MG), TORSION	
353	4-245-984-01	PULLEY (B)		356	3-701-446-21	WASHER, 8	

# 8-9. CD/DVD MECHANISM DECK SECTION-3 (LEVER, HOLDER BLOCK)

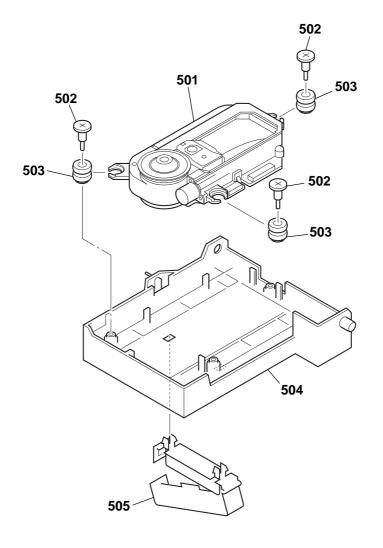


Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
401	X-4952-499-1	LEVER (LOCK 400) ASSY		410	4-225-871-03	HOLDER (F400)	
402	4-216-067-01	SPRING (CLAMP), COMPRESSION		411	X-4950-900-1	BRACKET (LEVER) ASSY	
403	3-701-441-21	WASHER		412	4-216-080-01	SPRING (LIMITTER), TORSION	
404	X-4952-501-1	HOLDER (DISC L400) ASSY		413	4-216-079-02	LIMITTER (LEVER)	
405	X-4952-502-1	HOLDER (DISC R400) ASSY		414	4-216-078-01	LEVER (LOADING)	
406	4-225-868-01	SHAFT (CLAMP 400)		415	4-998-716-01	SCREW, BU FITTING	
407	3-325-697-21	WASHER		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
408	4-216-076-11	HOLDER (R)		#6	7-624-106-04	STOP RING 3.0, TYPE -E	
409	4-216-077-01	SPRING (HOLDER FR), TORSION					



Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
451	4-225-865-01	SLIDER (400)		461	4-951-620-01	SCREW (2.6X8), +BVTP	
452	1-688-448-11	LOCK SW BOARD		462	1-688-446-11	LOADING SW BOARD	
453	X-4952-503-1	LEVER (FULCRUM 400) ASSY		463	4-225-869-01	GEAR (TABLE 400)	
454	1-688-447-11	LAODING MOTOR BOARD		M601	A-4672-895-A	MOTOR (400) ASSY (TABLE)	
456	A-4672-676-B	CAM ASSY		M602	A-4672-895-A	MOTOR (400) ASSY (LOADING)	
457	4-225-876-01	BELT (400)		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
458	4-225-870-01	PULLEY (400)		#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
459	4-216-057-01	GEAR (CENTER 2)		#7	7-682-948-01	SCREW +PSW 3X8	
460	4-216-058-01	GEAR (CENTER)					

#### 8-11. OPTICAL PICK-UP SECTION (DVBU26)



The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	<u>Description</u>	Remark	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
<b> ∆</b> 501	A-6061-908-A	OPTICAL PICK-UP KHM-290AAA	105 40000		3-053-847-11		
502	4-981-923-01	SCREW (M), STEP	ICE ASSY)		3-074-747-01	HOLDER (BU) ASSY CLAMP (FFC)	

#### **SECTION 9 ELECTRICAL PARTS LIST**

#### NOTE:

- · Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- · -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS

All resistors are in ohms. METAL: Metal-film resistor.

METAL OXIDE: Metal oxide-film resistor.

F: nonflammable

· Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

SEMICONDUCTORS

In each case, u:  $\mu$ , for example:  $uPA..: \mu PA..$ 

uA. . : μA. . uPB. . : μPB. . uPD. . : μPD. .  $uPC..: \mu PC..$ 

 CAPACITORS uF: μF

 COILS uH: μH The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.
Replace only with part number

specified.

Les composants identifiés par une marque  $\triangle$  sont critiquens pour la

sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>
	A-4733-699-A	AV BOARD, COM	PLETE			C234	1-136-818-11	FILM	0.0047uF	5%	100V
		******	****			C235	1-136-811-11	FILM	330PF	5%	100V
						C236	1-136-818-11	FILM	0.0047uF	5%	100V
*	3-309-144-21	HEAT SINK									
	7-685-871-01	SCREW +BVTT 3	X6 (S)			C237	1-136-811-11		330PF	5%	100V
						C238	1-136-818-11		0.0047uF	5%	100V
		< CAPACITOR >				C239	1-136-811-11		330PF	5%	100V
						C240	1-136-811-11		330PF	5%	100V
C102	1-126-204-11		47uF	20%	16V	C241	1-136-811-11	FILM	330PF	5%	100V
C103	1-126-204-11		47uF	20%	16V						
C104	1-126-204-11		47uF	20%	16V	C242	1-136-811-11		330PF	5%	100V
C105		CERAMIC CHIP	0.047uF	10%	16V	C243	1-127-694-11		47uF	20%	25V
C106	1-126-204-11	ELECT CHIP	47uF	20%	16V	C244	1-127-694-11		47uF	20%	25V
0.4.07		0504440 01115	0.4 5	100/	051/	C245	1-127-694-11		47uF	20%	25V
C107		CERAMIC CHIP	0.1uF	10%	25V	C246	1-127-694-11	ELECT	47uF	20%	25V
C108	1-126-204-11		47uF	20%	16V	0047	1 107 004 11	EL ECT	47F	0.00/	OEM
C109		CERAMIC CHIP	0.1uF	10%	25V	C247	1-127-694-11		47uF	20%	25V
C201	1-127-694-11		47uF	20%	25V	C248	1-127-694-11 1-127-694-11		47uF 47uF	20%	25V
C204	1-126-767-11	ELECT	1000uF	20%	16V	C249 C250	1-127-694-11	-	47uF 47uF	20% 20%	25V 25V
C205	1-126-193-11	EL ECT CUID	1uF	20%	50V	C250	1-136-850-11		47 uF 0.1uF	5%	63V
C205	1-126-193-11		1uF	20%	50V 50V	0231	1-130-030-11	WITLAN	U.Tur	J /0	031
C209	1-126-193-11		1uF	20%	50V	C252	1-128-200-11	FLECT	47uF	20%	50V
C210		CERAMIC CHIP	0.01uF	10%	25V	C253	1-136-850-11		0.1uF	5%	63V
C211		CERAMIC CHIP	0.01uF	10%	25V 25V	C254	1-128-200-11		47uF	20%	50V
0211	1 104 004 11	OLITAWIO OTIII	o. rui	10 /0	201	C255	1-136-850-11		0.1uF	5%	63V
C212	1-127-694-11	FLECT	47uF	20%	25V	C256	1-128-200-11		47uF	20%	50V
C213	1-130-478-00		0.0039uF	5%	50V	0200	1 120 200 11		17 41	2070	001
C214	1-130-478-00		0.0039uF	5%	50V	C257	1-128-200-11	ELECT	47uF	20%	50V
C215	1-130-478-00		0.0039uF	5%	50V	C258	1-136-850-11		0.1uF	5%	63V
C216	1-130-478-00		0.0039uF	5%	50V	C259	1-128-200-11	ELECT	47uF	20%	50V
						C260	1-136-850-11	MYLAR	0.1uF	5%	63V
C217	1-130-478-00	MYLAR	0.0039uF	5%	50V	C261	1-128-200-11	ELECT	47uF	20%	50V
C218	1-130-478-00	MYLAR	0.0039uF	5%	50V						
C219	1-130-478-00	MYLAR	0.0039uF	5%	50V	C262	1-136-850-11	MYLAR	0.1uF	5%	63V
C220	1-136-811-11	FILM	330PF	5%	100V	C263	1-128-200-11		47uF	20%	50V
C221	1-136-811-11	FILM	330PF	5%	100V	C264	1-136-850-11		0.1uF	5%	63V
						C265	1-136-850-11		0.1uF	5%	63V
C222	1-136-356-11		470PF	5%	100V	C266	1-128-200-11	ELECT	47uF	20%	50V
C223	1-136-811-11		330PF	5%	100V						
C224	1-136-811-11		330PF	5%	100V	C267	1-137-605-11		0.00022uF		50V
C225	1-136-811-11		330PF	5%	100V	C268	1-137-605-11		0.00022uF		50V
C226	1-136-811-11	FILM	330PF	5%	100V	C269	1-137-605-11		0.00022uF		50V
0007		EU 14	00005	<b>5</b> 0/	1001/	C270	1-137-605-11		0.00022uF		50V
C227	1-136-811-11		330PF	5%	100V	C271	1-137-605-11	MYLAR	0.00022uF	5%	50V
C228	1-136-818-11		0.0047uF		100V	0070	4 407 005 44	MAZLAD	0.00000 5	- F0/	F0\/
C229	1-136-818-11		0.0047uF		100V	C272	1-137-605-11		0.00022uF		50V
C230	1-136-818-11		0.0047uF		100V	C273	1-137-605-11		0.00022uF		50V
C231	1-136-356-11	FILIVI	470PF	5%	100V	C274	1-137-605-11		0.00022uF		50V
Cooo	1 126 010 11	EII M	0.0047	5%	1001/	C279	1-126-947-11		47uF 47uF	20%	16V
C232 C233	1-136-818-11		0.0047uF 330PF	5% 5%	100V	C280	1-126-947-11	LLEUI	41 ur	20%	16V
U233	1-136-811-11	FILIVI	JJUPF	J 70	100V	ı					

# AV

Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remark</u>
C281 C283 C301 C303 C304	1-119-800-11	FILM CERAMIC CHIP	47uF 0.0033uF 0.01uF 100uF 0.01uF	20% 5% 10% 20% 10%	16V 100V 25V 10V 25V	D106 D201 D301 D302 D303	8-719-914-43 8-719-210-39 8-719-210-39	DIODE HZM6.3 DIODE DAN20 DIODE EC1003 DIODE EC1003 DIODE EC1003	2K S-04 S-04
C305 C306 C307 C308 C309	1-162-970-11 1-162-970-11 1-136-850-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP MYLAR CERAMIC CHIP	0.01uF 0.01uF 0.01uF 0.1uF 0.01uF	10% 10% 10% 5% 10%	25V 25V 25V 63V 25V	D304 D305 D306 D307	8-719-210-39 8-719-988-61 8-719-988-61 8-719-914-44	DIODE EC1003 DIODE 1SS353 DIODE 1SS353 DIODE DAP203	S-04 5TE-17 5TE-17 2K
C310 C311 C313 C314 C316	1-119-800-11 1-135-781-51 1-119-800-11 1-135-748-11 1-162-970-11	ELECT ELECT	100uF 2200uF 100uF 4700uF 0.01uF	20% 20% 10%	10V 35V 10V 35V 25V	D308 D309 D310 D311	8-719-988-61 8-719-025-29	DIODE 1SS355 DIODE 1SS355 DIODE 02CZ5. DIODE 02CZ12	5TE-17 1-TE85L 2-TE85L
C319 C320 C321 C322 C323	1-119-800-11 1-119-800-11 1-100-398-21 1-127-694-11 1-162-970-11	ELECT ELECT	100uF 100uF 270uF 47uF 0.01uF	20% 20% 20% 20% 10%	25V 10V 10V 25V 25V	* G201 * G301		< EARTH TERM TERMINAL, EAF TERMINAL, EAF < IC >	RTH
C324 C325 C326 C327 C328	1-162-964-11 1-136-814-11	CERAMIC CHIP	0.01uF 0.001uF 0.001uF 0.1uF 0.1uF	10% 10% 5% 10% 5%	25V 50V 100V 25V 63V	IC102 IC201 IC202 IC203 IC204	8-759-052-52 8-759-447-30 8-759-447-30	IC LA73053-TI IC L78M05T-F. IC NJM2114M IC NJM2114M IC NJM2114M	A -TE2 -TE2
C329 C330 C331 C332 C333	1-100-398-21 1-127-694-11	ELECT CERAMIC CHIP	0.01uF 270uF 47uF 0.1uF 0.1uF	10% 20% 20% 10% 5%	25V 10V 25V 25V 63V	IC205 IC206 IC301 IC302 IC303	6-600-011-01 6-700-398-01 8-759-711-85	IC NJM2114M IC TOTX179L ( PCM, IC uPC2918T-I IC NJM4580E-IC NJM4580E-	(DIGITAL OUT /DTS/DOLBY DIGITAL OPTICAL) E1 -D
C334 C335 C336 C337 C338	1-162-970-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	220uF 470PF 0.01uF 0.1uF 0.1uF	10% 10% 10% 5%	10V 50V 25V 25V 63V	J101 J102	1-694-484-11	< JACK > TERMINAL, S (2	2P.V) (S VIDEO OUT) COMPONENT VIDEO OUT)
C339 C340 C341 C342	1-126-204-11 1-127-694-11 1-117-681-11 1-117-681-11	ELECT CHIP ELECT ELECT CHIP	47uF 47uF 100uF 100uF	20% 20% 20% 20%	16V 25V 16V 16V	J103 J104 J201 J202	1-793-475-11 1-793-344-21	JACK, PIN 2P (I JACK, PIN 4P (I JACK, PIN 4P (S	LINE OUT VIDEO) LINE OUT AUDIO) 5.1CH OUTPUT FRONT/REAR)
C343	1-162-970-11	CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V	J301		(5.1 JACK, PIN 1P (I	CH OUTPUT CENTER/WOOFER) DIGITAL OUT 'DTS/DOLBY DIGITAL COAXIAL)
		< CONNECTOR >						< COIL >	
CN201 CN202 CN203 CN204 CN205	1-784-834-21 1-784-835-21 1-785-101-11	PIN, CONNECTOR CONNECTOR, FFC CONNECTOR, FFC PIN, CONNECTOR PIN, CONNECTOR	C (LIF (NON C (LIF (NON R (3.96mm	-ZIF)) 23  -ZIF)) 27 PITCH) 3	SP 'P	L101 L102 L201	1-412-060-11 1-412-060-11 1-419-387-21	INDUCTOR	22uH 22uH 100uH
	1-764-177-11 1-794-509-11	PIN, CONNECTOR PIN, CONNECTOR PIN (PC BOARD)	R (SMD) (1. R (PC BOAR	5mm) 7F (D) (3P)	<b>.</b>	PS302	1-532-637-00	LINK, IC < TRANSISTOR	>
		< DIODE >				Q104 Q105	8-729-421-19 8-729-424-08		UN2213 UN2111
D101 D102 D103	8-719-053-18 8-719-071-15	DIODE 1SR154- DIODE 1SR154- DIODE HZM6.82	400TE-25 ZWA1TL			Q204 Q205 Q206	8-729-421-19	TRANSISTOR TRANSISTOR	UN2213 UN2213 UN2213
D104 D105		DIODE HZM6.82 DIODE HZM6.82				Q207	8-729-027-53	TRANSISTOR	DTC124TKA-T146

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Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>
Q208	8-729-027-53	TRANSISTOR	DTC124	TKA-T146							
Q209		TRANSISTOR		TKA-T146		R152	1-216-841-11	METAL CHIP	47K	5%	1/10W
Q210	8-729-424-02			A-QRS-TX		R153	1-216-833-11	METAL CHIP	10K	5%	1/10W
Q211		TRANSISTOR	2SB709/	A-QRS-TX		R154	1-216-864-11	SHORT CHIP	0		
ω=	0 . 20 . 2 . 02		202.00.			R155	1-216-833-11	METAL CHIP	10K	5%	1/10W
Q212	8-729-424-02	TRANSISTOR	2SB709	A-QRS-TX		R156	1-216-833-11	METAL CHIP	10K	5%	1/10W
Q213		TRANSISTOR		8 (F) -T (T		11100	1 210 000 11	ME IAE OIIII	1011	0 70	1, 1011
Q214		TRANSISTOR		3 (F) -T (T		R157	1-216-833-11	METAL CHIP	10K	5%	1/10W
Q215		TRANSISTOR		3 (F) -T (T		R158	1-216-864-11	SHORT CHIP	0	J /0	1/1000
Q216		TRANSISTOR		3 (F) -T (T	,	R160	1-208-785-11	METAL CHIP	1.3K	0.5%	1/10W
QZ 10	0-729-040-97	INANSISTUN	2301930	5 (F) -1 (1	۸).30	I	1-208-785-11				
0017	0 700 040 07	TDANCICTOD	000100	) /F\ T /T	V) CO	R161		METAL CHIP	1.3K	0.5%	1/10W
Q217		TRANSISTOR		3 (F) -T (T	,	R162	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q218		TRANSISTOR		8 (F) -T (T	,	D400	1 010 010 11	METAL OLUB	000	0.50/	4 /4 0 1 1 /
Q219		TRANSISTOR		3 (F) -T (T		R163	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q220		TRANSISTOR		B (F) -T (T	X).50	R164	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q221	8-729-230-49	TRANSISTOR	2SC2712	2-YG		R165	1-216-649-11	METAL CHIP	820	0.5%	1/10W
						R166	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q301		TRANSISTOR		SFT100QF	ł	R167	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q302		TRANSISTOR	UN2111								
Q303		TRANSISTOR	2SA1930			R168	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q304	8-729-052-94	TRANSISTOR	2SA1930	)		R169	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q305	8-729-052-95	TRANSISTOR	2SC517	1		R170	1-216-649-11	METAL CHIP	820	0.5%	1/10W
						R171	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q306	8-729-052-95	TRANSISTOR	2SC517	1		R172	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q307	8-729-421-19	TRANSISTOR	UN2213								
Q308	8-729-230-49	TRANSISTOR	2SC2712	2-YG		R173	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q309	8-729-421-19	TRANSISTOR	UN2213			R174	1-216-649-11	METAL CHIP	820	0.5%	1/10W
Q310	8-729-424-02	TRANSISTOR	2SB709/	A-QRS-TX		R175	1-216-649-11	METAL CHIP	820	0.5%	1/10W
						R176	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
Q311	8-729-224-62	FFT	2SK246-	GR		R177	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
Q312	8-729-224-62		2SK246-				1 200 702 11	ME IAE OIIII		0.070	1, 1011
QUIL	0 720 221 02		ZONZ 10	art		R178	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
		< RESISTOR >				R179	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
		< neolo loll >				R180	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R101	1-216-864-11	SHORT CHIP	0			R181	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
						I					
R103	1-216-864-11	SHORT CHIP	0			R182	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R106	1-216-864-11		0	F0/	4 /4 0 1 1	D400	1 000 700 11	METAL OLUD	41/	0.50/	1/10W
R108	1-216-827-11		3.3K	5%	1/10W	R183	1-208-782-11	METAL CHIP	1K	0.5%	
R109	1-216-864-11	SHUKI CHIP	0			R184	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
D440	1 010 000 11	METAL OLUB	401/	F0/	4 (4 0) (4	R185	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R110	1-216-833-11	METAL CHIP	10K	5%	1/10W	R186	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R111	1-216-021-00		68	5%	1/10W	R187	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R112	1-216-021-00		68	5%	1/10W						
R113	1-216-021-00		68	5%	1/10W	R188	1-208-782-11		1K	0.5%	1/10W
R114	1-216-021-00	METAL CHIP	68	5%	1/10W	R189	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
						R190	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R115	1-216-021-00		68	5%	1/10W	R191	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R116	1-216-021-00	-	68	5%	1/10W	R192	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R117	1-216-021-00		68	5%	1/10W						
R118	1-216-021-00		68	5%	1/10W	R193	1-208-790-11		2.2K	0.5%	1/10W
R119	1-216-021-00	METAL CHIP	68	5%	1/10W	R194	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
						R195	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R129	1-216-821-11	METAL CHIP	1K	5%	1/10W	R196	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R130	1-216-821-11	METAL CHIP	1K	5%	1/10W	R197	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R131	1-216-821-11	METAL CHIP	1K	5%	1/10W						
R132	1-216-864-11	SHORT CHIP	0			R198	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R133	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R199	1-216-649-11	METAL CHIP	820	0.5%	1/10W
						R200	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R134	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R201	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R135	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R202	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R142	1-216-833-11	METAL CHIP	10K	5%	1/10W	11202	. 210 070 11		320	3.0 /0	.,
R143	1-216-833-11	METAL CHIP	10K	5%	1/10W	R203	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R143	1-216-833-11	METAL CHIP	10K	5%	1/10W 1/10W	R203	1-216-649-11	METAL CHIP	820	0.5%	1/10W 1/10W
n 144	1-210-033-11	WE IAL UNIT	IUN	J /0	1/1000						
D11E	1 016 064 11	спорт спір	0			R205	1-216-649-11	METAL CHIP	820 820	0.5%	1/10W
R145	1-216-864-11	SHORT CHIP		FO/	1/10\4	R206	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R148	1-216-841-11	METAL CHIP	47K	5%	1/10W	R207	1-216-649-11	METAL CHIP	820	0.5%	1/10W
R149	1-216-833-11	METAL CHIP	10K	5%	1/10W	Booo	1 000 000 11	METAL OUR	F 017	0.507	4 /4 01**
R150	1-216-841-11	METAL CHIP	47K	5%	1/10W	R208	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R151	1-216-833-11	METAL CHIP	10K	5%	1/10W	R209	1-216-649-11	METAL CHIP	820	0.5%	1/10W

AV	D.SENS	: INI	D	SENS	OUT	DOO	R MO1	ΓΩΡ	DC	OOR SW	]		
				OLINO	OUI								
Ref. No.	Part No.	<u>Descri</u> p				<u>Remark</u>	Ref. No.	<u>Part No.</u>		<u>Description</u>			<u>Remark</u>
R210	1-208-790-11			2.2K	0.5%	1/10W							
R211	1-216-649-11			820	0.5%	1/10W	R271			METAL CHIP	47K	0.5%	1/10W
R212	1-208-790-11	METAL	CHIP	2.2K	0.5%	1/10W	R273			METAL CHIP	47K	0.5%	1/10W
D040	1 010 010 11		01115	000	0.50/	4 /4 00 44	R274			RES-CHIP	100	5%	1/10W
R213	1-216-649-11	METAL	-	820	0.5%	1/10W	R275			METAL CHIP	3.3K	0.5%	1/10W
R214	1-208-790-11			2.2K	0.5%	1/10W	R276	1-208-7	08-11	METAL CHIP	100	0.5%	1/10W
R215	1-216-649-11			820	0.5%	1/10W	D077	4 000 7		METAL OLUB	0.01/	0.50/	4/4014/
R216 R217	1-208-790-11			2.2K	0.5%	1/10W	R277			METAL CHIP	3.3K	0.5%	1/10W
nZ1/	1-208-790-11	IVIETAL	СПІР	2.2K	0.5%	1/10W	R278 R279			METAL CHIP METAL CHIP	3.3K 3.3K	0.5% 0.5%	1/10W 1/10W
R218	1-208-790-11	NACTAL	CHID	2.2K	0.5%	1/10W	R279			METAL CHIP	3.3K 1K	0.5% 5%	1/10W 1/10W
R219	1-208-790-11			2.2K 2.2K	0.5%	1/10W	R281			METAL CHIP	10K	5 % 5%	1/10W 1/10W
R220	1-208-822-11			47K	0.5%	1/10W	11201	1 210 00	00 11	WILIAL OITH	1010	<b>3</b> /0	1/ 10 00
R221	1-208-822-11			47K	0.5%	1/10W	R282	1-216-02	25-11	RES-CHIP	100	5%	1/10W
R222	1-208-822-11			47K	0.5%	1/10W	R283			METAL CHIP	100	0.5%	1/10W
	. 200 022				0.070	.,	R284			METAL CHIP	33K	5%	1/10W
R223	1-208-822-11	MFTAI	CHIP	47K	0.5%	1/10W	R285			METAL CHIP	22K	5%	1/10W
R224	1-208-822-11			47K	0.5%	1/10W	R287			METAL CHIP	47K	5%	1/10W
R225	1-208-822-11	METAL	CHIP	47K	0.5%	1/10W							
R226	1-208-822-11	METAL	CHIP	47K	0.5%	1/10W	R288	1-216-02	25-11	RES-CHIP	100	5%	1/10W
R227	1-208-822-11	METAL	CHIP	47K	0.5%	1/10W	R289	1-208-7	58-11	METAL CHIP	100	0.5%	1/10W
							R290	1-216-82	29-11	METAL CHIP	4.7K	5%	1/10W
R228	1-208-774-11	METAL	CHIP	470	0.5%	1/10W	R291	1-216-84	40-11	METAL CHIP	39K	5%	1/10W
R229	1-208-774-11	METAL	CHIP	470	0.5%	1/10W	R292	1-208-82	20-11	METAL CHIP	39K	0.5%	1/10W
R230	1-208-774-11	METAL	CHIP	470	0.5%	1/10W							
R231	1-208-774-11	METAL	CHIP	470	0.5%	1/10W	R293	1-208-78	38-11	METAL CHIP	1.8K	0.5%	1/10W
R232	1-208-774-11	METAL	CHIP	470	0.5%	1/10W	R294			METAL CHIP	1.8K	0.5%	1/10W
							R295	1-216-86	34-11	SHORT CHIP	0		
R233	1-208-774-11			470	0.5%	1/10W							
R234	1-208-774-11			470	0.5%	1/10W				< SWITCH >			
R235	1-208-774-11			470	0.5%	1/10W							
R236	1-216-827-11			3.3K	5%	1/10W	S101			SWITCH, SLIDE			
R237	1-216-827-11	METAL	CHIP	3.3K	5%	1/10W	******	*******	****	*********	********	*******	******
DOOO	1 010 007 11	NACTA I	OLUD	0.01/	F0/	4 /4 0 / M		4 000 4	-0 11	D CENC IN DOA	DD		
R238	1-216-827-11 1-216-827-11		-	3.3K	5%	1/10W		1-688-4	02-11	D.SENS IN BOA			
R239 R240	1-216-827-11		-	3.3K 3.3K	5% 5%	1/10W 1/10W				*****	~~~		
R240	1-216-827-11			3.3K	5 % 5%	1/10W	*	4-985-30	าก_กา	HOLDER (P-T)			
R242	1-216-827-11			3.3K	5%	1/10W		4-303-30	JU-U I	HOLDEN (F-1)			
11242	1-210-027-11	IVILIAL	OHIF	3.31	J /0	1/1000				< PHOTO TRAN	SISTOR \		
R243	1-216-827-11	METAI	CHIP	3.3K	5%	1/10W				CITIOTO ITIAN	01010117		
R244	1-216-845-11			100K	5%	1/10W	Q81	8-729-92	21-53	PHOTO TRANS	ISTOR PT	483F1	
R245	1-216-845-11		-	100K	5%	1/10W				*******			*****
R246	1-216-845-11			100K	5%	1/10W							
R247	1-208-758-11			100	0.5%	1/10W		1-688-4	53-11	D.SENS OUT BO	DARD		
										******	****		
R248	1-208-758-11	METAL	CHIP	100	0.5%	1/10W							
R249	1-208-758-11	METAL	CHIP	100	0.5%	1/10W	*	4-976-47	73-01	HOLDER (LED-	S)		
R250	1-208-758-11	METAL	CHIP	100	0.5%	1/10W							
R251	1-208-758-11	METAL	CHIP	100	0.5%	1/10W				< LED >			
R252	1-208-758-11	METAL	CHIP	100	0.5%	1/10W							
							D81			LED GL528VS	`		,
R253	1-208-758-11			100	0.5%	1/10W	******	******	****	*******	******	******	*****
R254	1-208-758-11			100	0.5%	1/10W							
R255	1-208-758-11			100	0.5%	1/10W		1-688-4	51-11	DOOR MOTOR			
R256	1-208-758-11			100	0.5%	1/10W				*******	****		
R257	1-216-821-11	METAL	CHIP	1K	5%	1/10W							
DOCO	1 010 001 11	NACTA:	CLUD	41/	EO/	1/10\4	******	·~~*****	~~***	*******	·~~~****	· · · · · · · · · · · · · · · · · · ·	~~~~****
R258	1-216-821-11			1K	5%	1/10W		1 000 4	-0 44	D00D 0W D0 4	חח		
R259	1-216-821-11			1K	5% 5%	1/10W		ı-b88-48	00-17	DOOR SW BOA			
R260	1-216-033-00			220	5% 5%	1/10W				~~~~~~~~~	er on on		
R261 R262	1-216-021-00 1-216-833-11			68 10k	5% 5%	1/10W				< SWITCH >			
HZ02	1-210-033-11	IVIETAL	ипіР	10K	5%	1/10W				< 9M110H >			
R264	1-216-833-11	METAI	CHIP	10K	5%	1/10W	S611	1-786-1	54-11	SWITCH, ROTA	BA (DUUD	)	
R265	1-208-794-11			3.3K	0.5%	1/10W	S612			SWITCH, ROTA		,	
R266	1-208-794-11			3.3K	0.5%	1/10W				********		******	*****
R267	1-208-794-11			3.3K	0.5%	1/10W							
R269	1-216-864-11			0	2.3,0								
			•	-									

									DRIVER	KE	Y	LED
Re	ef. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	Description			Remark
		A-4733-705-A	DRIVER BOARD,	COMPLETE			R913	1-216-848-11	METAL CHIP	180K	5%	1/10W
			******				R914	1-216-848-11		180K	5%	1/10W
			. CADACITOD .				R915	1-218-291-11	METAL CHIP	16K	5%	1/10W
			< CAPACITOR >				R916	1-216-849-11	METAL CHIP	220K	5%	1/10W
	C901		CERAMIC CHIP	0.1uF	10%	16V	R917	1-216-845-11		100K	5%	1/10W
	C902		CERAMIC CHIP	0.1uF	10%	16V	R918	1-216-829-11		4.7K	5%	1/10W
	C903		CERAMIC CHIP	0.1uF	10%	16V	R919	1-240-915-11		1	1%	1/10W
	C904 C905		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF	10% 10%	16V 16V	R920	1-240-915-11		1	1%	1/10W
	0000	4 407 000 44	0504440 01110	0.4.5	100/	4014	R921	1-216-847-11		150K	5%	1/10W
	C906 C907	1-107-826-11	CERAMIC CHIP	0.1uF 2.2uF	10% 20%	16V 50V	R922 R923	1-216-845-11 1-216-821-11		100K 1K	5% 5%	1/10W 1/10W
	C908		CERAMIC CHIP	2.2ur 0.47uF	20 /0	25V	R924	1-216-809-11		100	5%	1/10W
	C909		CERAMIC CHIP	0.47uF		25V	R925	1-216-821-11		1K	5%	1/10W
	C910	1-164-005-11	CERAMIC CHIP	0.47uF		25V	Doog		METAL OLUB	4001/	F0/	
	C911	1_165_310_11	CERAMIC CHIP	0.1uF		50V	R926 R927	1-216-845-11 1-216-847-11		100K 150K	5% 5%	1/10W 1/10W
	C913		CERAMIC CHIP	0.1uF		50V	R928	1-216-829-11		4.7K	5%	1/10W
	C914	1-126-947-11		47uF	20%	25V	R929	1-240-915-11		1	1%	1/10W
	C915	1-126-947-11	ELECT	47uF	20%	25V	R930	1-240-915-11	RES, CHIP	1	1%	1/10W
			< CONNECTOR >				R931	1-216-845-11	METAL CHIP	100K	5%	1/10W
							R932	1-216-057-00		2.2K	5%	1/10W
	CN901	1-573-806-21	PIN, CONNECTOR				R933	1-216-809-11		100	5%	1/10W
*	CN902 CN903		PIN, CONNECTOR			)	R934 R935	1-216-057-00		2.2K	5%	1/10W 1/10W
			PIN, CONNECTOR PIN, CONNECTOR				ที่ยออ	1-216-809-11	WEIAL UNIP	100	5%	1/1000
	CN905		PIN, CONNECTOR				R936	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
				,	,		R937	1-216-057-00	METAL CHIP ********	2.2K	5%	1/10W
	CN906	1-794-309-11	PIN, CONNECTOR	(PU BUAN	(J) (JP)							
			< DIODE >					1-688-454-11	KEY BOARD *******			
	D935	8-719-025-49	DIODE 02CZ15-	TE85L					< CAPACITOR >			
			< EARTH TERMIN	IAL >			0001	1 104 150 11		0.4		05)/
*	G901	1-537-738-21	TERMINAL, EART	Н			C821 C822	1-164-156-11		0.1uF 0.1uF		25V 25V
	4001	1 001 100 21					C823	1-126-935-11		470uF	20%	10V
			< IC >						< CONNECTOR >			
	IC941	8-759-822-38	IC LA6510									
	IC961	8-759-822-38	IC LA6510						PIN, CONNECTOR			
			< TRANSISTOR >				J821	1-785-945-11	CONNECTOR, DIN	(KEYBOAF	RD)	
	0004	0.700.000.40			\/O				< COIL >			
	Q931 Q941	8-729-230-49 8-729-424-18		2SC2712- UN2113	YG		L821	1-424-122-11	FILTER, NOISE			
	Q942	8-729-421-19		UN2213			L822		FILTER, NOISE			
	Q951	8-729-424-18		UN2113			L823		FILTER, NOISE			
	Q952	8-729-421-19	TRANSISTOR	UN2213			L824		FILTER, NOISE *******	*****	*****	******
			< RESISTOR >									
	R901	1-216-797-11	METAL CUID	10	5%	1/10W		A-4/33-/1/-A	LED BOARD, COM			
	R902	1-240-915-11		1	1%	1/10W						
	R903	1-240-915-11		1	1%	1/10W			< CAPACITOR >			
	R904	1-216-797-11		10	5%	1/10W						
	R905	1-240-915-11	RES, CHIP	1	1%	1/10W	C801	1-164-156-11	CERAMIC CHIP	0.1uF		25V
	R906	1-216-835-11		15K	5%	1/10W			< CONNECTOR >			
	R907 R908	1-240-915-11 1-216-835-11		1 15K	1% 5%	1/10W 1/10W	CNP504	1-785-328-11	PIN, CONNECTOR	(LIGHT AN	IGRE) 2	P
	R909	1-216-848-11		180K	5%	1/10W	3141 004		, COIVINEOTOIL	, E. GIII AI		· <del>·</del>
	R910	1-218-291-11		16K	5%	1/10W			< LED >			
	R911	1-216-847-11	METAL CHIP	150K	5%	1/10W	D801	6-500-329-01	LED SELU5E23C-	-PTP15 (II	LUMINA	ATION)
	R912	1-216-847-11		150K	5%	1/10W			30 <b>-130</b>	. 3 (.2		-·- <i>/</i>

LED	LOAD	ING MOTO	R L	.OAE	DING S	W L	OCK SW	MB			
Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	Description			<u>Remark</u>
		< RESISTOR >				C216	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
						C218	1-162-965-11		0.0015uF	10%	50V
R801	1-216-805-11	METAL CHIP	47	5%	1/10W	C219	1-107-826-11		0.1uF	10%	16V
******	*****	***********	*******	*****	******						
	1 000 447 11	LOADING MOTOR				C220		CERAMIC CHIP	0.1uF	10%	16V
	1-688-447-11	LOADING MOTOR				C221	1-124-779-00		10uF	20%	16V
		****	*****			C225 C226		CERAMIC CHIP	100PF 220PF	5% 5%	50V 50V
******	*********	**********	*****	*****	******	C228		CERAMIC CHIP	0.001uF	10%	50V 50V
	1-688-446-11	LOADING SW BOA				C229		CERAMIC CHIP	0.001uF	10%	50V
		******	e sle sle			C230 C232		CERAMIC CHIP	0.0047uF 0.1uF	10% 10%	50V 16V
		< SWITCH >				C232		CERAMIC CHIP	0.1uF 0.1uF	10%	16V 16V
		< 30011011>				C234	1-126-205-11		47uF	20%	6.3V
S621	1-786-154-11	SWITCH, ROTARY	(LOADING	a)		020.	20 200			2070	0.01
*****	******	********	******	******	*****	C235	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
						C236	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
	1-688-448-11	LOCK SW BOARD				C238	1-124-779-00		10uF	20%	16V
		******				C240		CERAMIC CHIP	0.033uF	10%	16V
		OMUTOU				C241	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< SWITCH >				C242	1-126-205-11	ELECT CHID	47uF	20%	6.3V
S622	1_771_60/_11	SWITCH, DETECTI	טוו (ו טכג	7		C242		CERAMIC CHIP	47 ur 0.01uF	10%	25V
		*********	`	,	*****	C244		CERAMIC CHIP	0.01uF	10%	16V
						C245		CERAMIC CHIP	0.1uF	10%	25V
	A-4733-709-A	MB BOARD, COMP	PLETE			C246		CERAMIC CHIP	0.033uF	10%	16V
		******				02.0		02	0.0000	. 0 / 0	
						C247	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CAPACITOR >				C248	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
						C249		CERAMIC CHIP	0.01uF	10%	25V
C101			0.1uF	10%	16V	C251		CERAMIC CHIP	0.1uF	10%	16V
C102			0.01uF	10%	25V	C252	1-10/-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-126-209-11		100uF	20%	4V	0050	1 100 001 11	OED ANALO OLUB	0.004 5	4.00/	501/
C104			0.01uF	10%	25V	C253	1-162-964-11	CERAMIC CHIP	0.001uF 0.0047uF	10%	50V
C105	1-102-970-11	CERAMIC CHIP	0.01uF	10%	25V	C254 C255	1-102-900-11	CERAMIC CHIP	0.0047uF 0.1uF	10%	50V 16V
C106	1-162-014-11	CERAMIC CHIP	9PF	0.5PF	50V	C256	1-165-176-11		0.1u1 0.047uF	10%	16V
C107			9PF	0.5PF	50V	C257		CERAMIC CHIP	0.047uF	10%	16V
C108			0.01uF	10%	25V	0207	1 100 170 11	OLIVATIO OTTI	0.017 01	1070	
C109	1-126-209-11		100uF	20%	4V	C258	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C111	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C259	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
						C260	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C113			0.01uF	10%	25V	C261		CERAMIC CHIP	330PF	5%	50V
C115			0.01uF	10%	25V	C262	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C118			0.047uF	10%	16V	0000	4 404 770 00	EL FOT OLUB	40.5	000/	4014
C120			0.01uF	10%	25V	C263	1-124-779-00		10uF	20%	16V
C121	1-102-970-11	CERAMIC CHIP	0.01uF	10%	25V	C264 C265		CERAMIC CHIP CERAMIC CHIP	0.47uF 0.1uF	10% 10%	10V 16V
C122	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C266		CERAMIC CHIP	0.1uF 0.1uF	10%	16V
C124	1-102-970-11		100uF	20%	6.3V	C270		CERAMIC CHIP	0.1uF 0.01uF	10%	25V
C125	1-126-607-11		47uF	20%	4V	0210	02 070 11	JEIN AVIIO OIIII	5.5 Tul	. 0 /0	200
C126	1-126-204-11		47uF	20%	16V	C271	1-126-204-11	ELECT CHIP	47uF	20%	16V
C127	1-126-246-11		220uF	20%	4V	C272	1-107-826-11		0.1uF	10%	16V
						C302	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C128	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C303		CERAMIC CHIP	0.1uF	10%	16V
C129			0.01uF	10%	25V	C304	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C130			0.01uF	10%	25V						
C132			0.022uF	10%	25V	C305		CERAMIC CHIP	0.0047uF		50V
C201	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C308	1-126-206-11		100uF	20%	6.3V
0000	1 160 070 11	CEDAMIC CUID	0.04	100/	051/	C309		CERAMIC CHIP	0.01uF	10%	25V
C202			0.01uF	10%	25V	C310		CERAMIC CHIP	100PF	5%	50V
C210 C211			0.0022uF 0.0022uF		50V 50V	C311	1-102-9/0-11	CERAMIC CHIP	0.01uF	10%	25V
C211			0.0022uF 0.0022uF		50V 50V	C312	1-110-562-11	CERAMIC CHIP	0.068uF	10%	16V
C212			0.0022uF		50V 50V	C312		CERAMIC CHIP	0.066uF 0.033uF	10%	16V 16V
0210	1 102-300-11	OLIMBIO OTHE	o.oozzui	10/0	JU V	C314		CERAMIC CHIP	0.033uF 0.01uF	10%	25V
C214	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	C315		CERAMIC CHIP	0.01uF	10%	25V
C215			100PF	5%	50V	C316		CERAMIC CHIP	0.0047uF		50V
-				-							-

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Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
11011 1101	<u>. u</u>	<u> </u>			1101114111	C450	1-162-970-11	CERAMIC CHIP	0.01E	100/	25V
C317	1_107_996_11	CERAMIC CHIP	0.1uF	10%	16V	C501	1-162-970-11		0.01uF 0.01uF	10% 10%	25V 25V
C318		CERAMIC CHIP	0.1u1 0.0047uF	10%	50V	C502		CERAMIC CHIP	0.01uF	10%	25V 25V
C319		CERAMIC CHIP	0.011uF	10%	25V	0002	1 102 070 11	OLIVIANIO OIIII	0.0141	10 /0	201
C320		CERAMIC CHIP	0.0047uF		50V	C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C321		CERAMIC CHIP	0.01uF	10%	25V	C504		CERAMIC CHIP	0.01uF	10%	25V
						C505		CERAMIC CHIP	0.01uF	10%	25V
C322	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C508		CERAMIC CHIP	0.01uF	10%	25V
C323	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C509	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C324		CERAMIC CHIP	0.1uF	10%	16V						
C325		CERAMIC CHIP	0.01uF	10%	25V	C510	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C326	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C511	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
						C512		CERAMIC CHIP	0.01uF	10%	25V
C327		CERAMIC CHIP	0.01uF	10%	25V	C513		CERAMIC CHIP	0.01uF	10%	25V
C328		CERAMIC CHIP	0.01uF	10%	25V	C514	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C329		CERAMIC CHIP	0.01uF	10%	25V						
C330		CERAMIC CHIP	0.0047uF	10%	50V	C515		CERAMIC CHIP	0.01uF	10%	25V
C331	1-10/-826-11	CERAMIC CHIP	0.1uF	10%	16V	C516		CERAMIC CHIP	0.01uF	10%	25V
0000	4 400 070 44	0504440 01115	0.04 5	400/	051/	C517		CERAMIC CHIP	0.01uF	10%	25V
C332		CERAMIC CHIP	0.01uF	10%	25V	C518		CERAMIC CHIP	0.01uF	10%	25V
C333		CERAMIC CHIP CERAMIC CHIP	0.01uF	10%	25V	C519	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C334 C335		CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V	CEOO	1-162-970-11	CERAMIC CHIP	0.01E	100/	25V
C337		CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V	C520 C521		CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V
0337	1-102-970-11	CENAIVIIC CITIF	0.0141	10 /0	231	C522		CERAMIC CHIP	0.01uF	10%	25V 25V
C338	1_162_070_11	CERAMIC CHIP	0.01uF	10%	25V	C523		CERAMIC CHIP	0.01uF	10%	25V 25V
C339		CERAMIC CHIP	0.01uF	10%	25V 25V	C525		CERAMIC CHIP	0.47uF	10%	10V
C340		CERAMIC CHIP	0.01uF	10%	25V	0020	1 120 001 11	OLIVIANIO OIIII	0. 17 ui	10 /0	101
C343		CERAMIC CHIP	0.01uF	10%	25V	C528	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C344		CERAMIC CHIP	0.01uF	10%	25V	C532	1-126-206-11		100uF	20%	6.3V
						C535	1-126-206-11		100uF	20%	6.3V
C401	1-126-193-11	ELECT CHIP	1uF	20%	50V	C543		CERAMIC CHIP	0.001uF	10%	50V
C404	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C601	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C405	1-124-779-00	ELECT CHIP	10uF	20%	16V						
C407	1-124-779-00		10uF	20%	16V	C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C408	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C603	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
						C605		CERAMIC CHIP	0.01uF	10%	25V
C410		CERAMIC CHIP	0.01uF	10%	25V	C606		CERAMIC CHIP	0.01uF	10%	25V
C411		CERAMIC CHIP	0.01uF	10%	25V	C607	1-126-209-11	ELECT CHIP	100uF	20%	4V
C413		CERAMIC CHIP	0.01uF	10%	25V						
C414		CERAMIC CHIP	0.01uF	10%	25V	C608		CERAMIC CHIP	0.01uF	10%	25V
C416	1-162-9/0-11	CERAMIC CHIP	0.01uF	10%	25V	C609	1-126-607-11		47uF	20%	4V
0447	1 100 070 11	OEDAMIO OLUB	0.045	100/	051/	C610	1-126-607-11		47uF	20%	4V
C417		CERAMIC CHIP	0.01uF	10%	25V	C611	1-126-607-11		47uF	20%	4V
C418 C419		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V	C612	1-102-970-11	CERAMIC CHIP	0.01uF	10%	25V
C420		CERAMIC CHIP	0.01uF	10%	16V	C613	1_162_070_11	CERAMIC CHIP	0.01uF	10%	25V
C423		CERAMIC CHIP	0.1uF	10%	25V	C614		CERAMIC CHIP	0.01uF	10%	25V 25V
0420	1 102 370 11	OLITAWIO OTIII	0.0141	10 /0	201	C615		CERAMIC CHIP	0.01uF	10%	25V
C424	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C616		CERAMIC CHIP	0.01uF	10%	25V
C426		CERAMIC CHIP	0.01uF	10%	25V	C617		CERAMIC CHIP	0.01uF	10%	25V
C427		CERAMIC CHIP	0.01uF	10%	25V						
C429	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C618	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C430	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C619	1-126-607-11	ELECT CHIP	47uF	20%	4V
						C620	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C431	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C621	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C432		CERAMIC CHIP	0.01uF	10%	25V	C622	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C433		CERAMIC CHIP	0.01uF	10%	25V						
C436		CERAMIC CHIP	0.01uF	10%	25V	C623		CERAMIC CHIP	0.1uF	10%	16V
C437	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C624		CERAMIC CHIP	0.22uF	10%	10V
0		0ED 41410 0:	0.04 =	400'	051/	C625		CERAMIC CHIP	0.22uF	10%	10V
C438		CERAMIC CHIP	0.01uF	10%	25V	C626	1-126-206-11		100uF	20%	6.3V
C439		CERAMIC CHIP	0.01uF	10%	25V	C627	1-115-46/-11	CERAMIC CHIP	0.22uF	10%	10V
C440		CERAMIC CHIP	0.01uF	10%	25V	0000	1 164 045 44	CEDAMIC OUID	470DF	E0/	E01/
C441		CERAMIC CHIP	0.01uF	10%	25V	C628		CERAMIC CHIP	470PF	5%	50V
C442	1-102-9/0-11	CERAMIC CHIP	0.01uF	10%	25V	C629		CERAMIC CHIP	470PF	5% 10%	50V 50V
C443	1-162-070-11	CERAMIC CHIP	0.01uF	10%	25V	C630 C631	1-164-173-11	CERAMIC CHIP	0.0039uF 0.1uF	10% 5%	16V
C448		CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V	C632	1-127-956-21		0.1uF 0.1uF	5%	16V 16V
0110	. 102 070 11	SELECTION OF THE	0.0 Tul	. 5 /0	_ V	0002		. ILW OIM	J. 141	J /0	

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D. ( N	D. I.N.	December 1			D 1	D.C.N.	D. I.N.	Daniel Saller			D 1
Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>
0000	1 104 700 11	OEDAMIO OLUB	00005	100/	E01/	C931	1-162-970-11		0.01uF	10%	25V
C633 C634		CERAMIC CHIP CERAMIC CHIP	820PF 0.22uF	10% 10%	50V 10V	C932 C933		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V
C635	1-113-407-11		100uF	20%	6.3V	0933	1-102-970-11	GENAIVIIG GHIF	0.01ur	10 /0	237
C636		CERAMIC CHIP	0.22uF	10%	10V	C934	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C637		CERAMIC CHIP	0.22ui	10%	50V	C935		CERAMIC CHIP	0.033uF	10%	16V
		02.11.11.110 0	0.00.0.	. 0 / 0		C936		CERAMIC CHIP	0.01uF	10%	25V
C638	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V						
C639	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V			< CONNECTOR >			
C640	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C701		CERAMIC CHIP	0.01uF	10%	25V	CN101		PIN (PC BOARD)			
C702	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V			CONNECTOR, FFO			P
0705	4 400 070 44	0504440 01115	0.04 5	100/	0517			PIN, CONNECTOR			
C705		CERAMIC CHIP	0.01uF	10%	25V			PIN, CONNECTOR		KD) 6P	
C707 C709		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.01uF	10% 10%	16V 25V	* CN105	1-/00-388-11	CONNECTOR PIN	(2MD) 9P		
C709 C710		CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V	* CN106	1 601 551 11	PIN, CONNECTOR	) (CMID) 0D	)	
C710		CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V	CN100		PIN, CONNECTOR			)P
0711	1 102 370 11	OLITAWIO OTIII	0.0141	10 /0	201	CN203		CONNECTOR, FFO		(OIVID) TO	,,
C712	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	CN204		CONNECTOR, FFO			
C713		CERAMIC CHIP	0.01uF	10%	25V	CN501		CONNECTOR, FFO		I-ZIF)) 27	P
C714	1-126-607-11		47uF	20%	4V			,	- ( ( -	//	
C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	CN601	1-784-834-21	CONNECTOR, FFO	C (LIF (NON	I-ZIF)) 23	P
C802	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	CN701		PIN, CONNECTOR			
C803		CERAMIC CHIP	0.01uF	10%	25V			< DIODE >			
C805		CERAMIC CHIP	0.01uF	10%	25V						
C806		CERAMIC CHIP	0.01uF	10%	25V	D101		DIODE 1SS367-			
C807		CERAMIC CHIP	0.01uF	10%	25V	D501		DIODE DAP2021			
C808	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D502		DIODE DAP2021			
0000	1 160 070 11	CERAMIC CHIP	0.01uF	10%	25V	D503	8-719-914-44	DIODE DAP2021	۸		
C809 C810	1-102-970-11		100uF	20%	6.3V			< FERRITE BEAD	/SHUBL <		
C811		CERAMIC CHIP	0.01uF	10%	25V			< TEITHTE BEAD	0110111 >		
C812		CERAMIC CHIP	0.01uF	10%	25V	FB104	1-469-324-21	FERRITE	0uH		
C813		CERAMIC CHIP	0.01uF	10%	25V	FB105	1-469-324-21		0uH		
						FB106	1-469-324-21		0uH		
C814	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FB107	1-469-324-21	FERRITE	0uH		
C816	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	FB108	1-469-324-21	FERRITE	0uH		
C817		CERAMIC CHIP	0.01uF	10%	25V						
C901		CERAMIC CHIP	0.01uF	10%	25V	FB109	1-469-324-21		0uH		
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FB110	1-469-324-21		0uH		
0000	1 104 770 00	EL FOT OLUD	10	000/	401/		1-469-324-21		0uH		
C903 C904	1-124-779-00	CERAMIC CHIP	10uF 0.01uF	20%	16V 25V	FB112 FB121	1-469-784-11		0uH		
C904 C905		CERAMIC CHIP	0.01uF 0.22uF	10% 10%	25V 10V	FBIZI	1-216-864-11	SHUKI CHIP	0		
C909		CERAMIC CHIP	0.22ui 0.01uF	10%	25V	FB122	1-216-864-11	SHORT CHIP	0		
C910	1-126-209-11		100uF	20%	4V	FB123	1-500-284-21		0 0uH		
0010	1 120 200 11	22201 01111	10001	2070		FB124	1-216-864-11		0		
C912	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	FB125	1-500-283-11		0uH		
C913	1-126-209-11		100uF	20%	4V	FB126	1-500-283-11		0uH		
C914	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V						
C915	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FB127	1-500-284-21	FERRITE	0uH		
C916	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FB401	1-216-864-11		0		
						FB501	1-469-784-11		0uH		
C917		CERAMIC CHIP	0.01uF	10%	25V	FB502	1-469-784-11		0uH		
C919		CERAMIC CHIP	0.01uF	10%	25V	FB601	1-216-864-11	SHORT CHIP	0		
C920		CERAMIC CHIP	0.01uF	10%	25V			, EILTED .			
C921 C922		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V			< FILTER >			
0322	1-102-310-11	OLIMINIO UNIP	J.UTUF	10 /0	2J V	FL102	1-234-177-21	FILTER, CHIP EM	ı		
C923	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FL102		FILTER, CHIP EM			
C924		CERAMIC CHIP	0.01uF	10%	25V	FL104		FILTER, CHIP EM			
C926		CERAMIC CHIP	0.01uF	10%	25V	FL105		FILTER, CHIP EM			
C927		CERAMIC CHIP	0.01uF	10%	25V	FL106		FILTER, CHIP EM			
C928		CERAMIC CHIP	0.01uF	10%	25V						
						FL107		FILTER, CHIP EM			
C929		CERAMIC CHIP	0.01uF	10%	25V	FL108		FILTER, CHIP EM			
C930	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	FL109	1-234-177-21	FILTER, CHIP EM	I		

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	<u>Description</u>			Remark
		· · · · · · · · · · · · · · · · · · ·	1101114111		<u>- a.c.1501</u>	< RESISTOR >			1101110111
FL201 FL402		FILTER, CHIP EMI FILTER, CHIP EMI				< RESISTUR >			
1 1402	1-204-177-21	TIETER, OTHE EWI		R021	1-216-833-11	METAL CHIP	10K	5%	1/10W
FL403	1-234-177-21	FILTER, CHIP EMI		R022	1-216-864-11		0	0 70	1, 1011
FL404		FILTER, CHIP EMI		R101	1-216-827-11		3.3K	5%	1/10W
FL501		FILTER, CHIP EMI		R102	1-216-833-11		10K	5%	1/10W
FL502		FILTER, CHIP EMI		R103	1-216-864-11		0		
FL701		FILTER, CHIP EMI							
		, -		R105	1-216-864-11	SHORT CHIP	0		
FL901	1-234-177-21	FILTER, CHIP EMI		R106	1-216-821-11		1K	5%	1/10W
FL902		FILTER, CHIP EMI		R107	1-216-837-11	METAL CHIP	22K	5%	1/10W
FL903		FILTER, CHIP EMI		R108	1-216-864-11	SHORT CHIP	0		
FL905	1-234-177-21	FILTER, CHIP EMI		R109	1-216-805-11	METAL CHIP	47	5%	1/10W
		< IC >		R110	1-216-805-11		47	5%	1/10W
				R111	1-216-821-11	METAL CHIP	1K	5%	1/10W
IC101		IC BR24C04F-WE2		R112	1-216-845-11		100K	5%	1/10W
IC102		IC TK11133CSCL-G		R113	1-216-845-11		100K	5%	1/10W
IC103		IC SM8707EV-G-E2		R114	1-216-821-11	METAL CHIP	1K	5%	1/10W
IC104		IC MB91307RPFV-G-BND-E1							
IC106	6-803-477-01	IC MBM29DL324BE90TN-E11572		R115	1-216-821-11		1K	5%	1/10W
				R117	1-216-833-11		10K	5%	1/10W
IC108		IC IDT71V016SA15PH8 (SCD2994)		R118	1-216-833-11		10K	5%	1/10W
IC201	6-703-445-01			R119	1-216-813-11		220	5%	1/10W
IC202		IC FAN8034L		R120	1-216-797-11	METAL CHIP	10	5%	1/10W
IC301		IC CXD9703R		D404	4 040 005 44	METAL OLUB	47	E0/	4 (4 0) 14
IC302	6-702-302-01	IC TK11133CSCL-G		R121	1-216-805-11		47	5%	1/10W
10000	0.700.000.01	10 NACNALEAVA 04 COE COTATNAL		R122	1-216-809-11		100	5%	1/10W
IC303		IC MSM151V18160F-60T47M1		R123	1-216-827-11		3.3K	5%	1/10W
IC401 IC403		IC TK11118CSCL-G IC CXD1935Q		R124 R125	1-216-827-11		3.3K 10K	5% 5%	1/10W
1C403 1C404		IC GLT5160L16P-7TCT		NI20	1-216-833-11	WETAL CHIP	IUK	370	1/10W
1C404 1C405		IC GLT5160L16P-7TCT		R126	1-216-833-11	METAL CLID	10K	5%	1/10W
10405	0-703-042-01	IC GLISTOOLTOF-71CT		R120	1-216-797-11		10	5 % 5 %	1/10W
IC501	9-759-419-91	IC CXD1938AR		R133	1-216-833-11		10K	5 % 5%	1/10W
IC502		IC AK4358VQ-L		R138	1-216-809-11		100	5%	1/10W
IC601		IC TK11125CSCL-G		R139	1-216-833-11		10K	5%	1/10W
IC602		IC CXD9698R		11100	1 210 000 11	WILIAL OITH	1010	3 /0	1/1000
IC603		IC GLT5160L16P-7TCT		R141	1-216-797-11	METAL CHIP	10	5%	1/10W
10000	0 7 00 0 12 0 1	10 02101002101 7101		R142	1-216-797-11		10	5%	1/10W
IC604	6-704-646-01	IC ADV7310KST		R144	1-216-797-11		10	5%	1/10W
IC605		IC TK11125CSCL-G		R146	1-216-797-11		10	5%	1/10W
IC701		IC CXD9705R		R147	1-216-805-11		47	5%	1/10W
IC702	6-702-439-01	IC K9F6408U0C-TCB0T							
IC703	8-759-548-99	IC SN74LV08APWR		R148	1-216-809-11	METAL CHIP	100	5%	1/10W
				R150	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
IC801	6-705-008-11	IC CXD9722ATQ		R151	1-216-809-11	METAL CHIP	100	5%	1/10W
IC802	6-703-842-01	IC GLT5160L16P-7TCT		R152	1-216-833-11	METAL CHIP	10K	5%	1/10W
IC803		IC TK11133CSCL-G		R154	1-216-809-11	METAL CHIP	100	5%	1/10W
IC901		IC TK11225CMCL-G							
IC903	6-703-842-01	IC GLT5160L16P-7TCT		R157	1-216-809-11		100	5%	1/10W
				R159	1-216-833-11		10K	5%	1/10W
IC905		IC CXD2753R		R160	1-216-809-11		100	5%	1/10W
IC906	6-702-231-01	IC LMH6642MFX/NOPB		R163	1-216-809-11		100	5%	1/10W
				R165	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< COIL >							
		INDUSTOR OUR 40 H		R166	1-216-827-11		3.3K	5%	1/10W
L101		INDUCTOR CHIP 10uH		R167	1-216-809-11		100	5%	1/10W
L201		INDUCTOR CHIP 47uH		R168	1-216-864-11		0		
L202	1-412-031-11	INDUCTOR CHIP 47uH		R170	1-414-226-21		0uH	E0/	4 /4 0 14 /
		TDANGISTOD		R171	1-216-833-11	WIETAL UHIP	10K	5%	1/10W
		< TRANSISTOR >		D170	1 016 001 11	METAL CLUD	11/	E0/	1/1014
Q001	Q_720 007 20	TRANSISTOR DTA144EKA-T146		R172 R173	1-216-821-11 1-216-829-11		1K 4.7K	5% 5%	1/10W 1/10W
Q001 Q002		TRANSISTOR DTA144EKA-T146		R173	1-216-829-11		4.7K 0	J /0	1/1000
Q201		TRANSISTOR 2SB1132-P		R175	1-216-809-11		100	5%	1/10W
Q201 Q202		TRANSISTOR 2SB1132-P		R176	1-216-809-11		100	5% 5%	1/10W 1/10W
Q202 Q701		TRANSISTOR DTC114EK		1111	1-210-008-11	MILIAL VIIIF	100	J /0	1/1000
Q/UI	0 120-000-00	THANGIOTOIL DIGITALN		R178	1-216-809-11	METAL CHIP	100	5%	1/10W
				11170	1 210 000-11	WEINE OIII	100	J /0	1/1000

# MB

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
	· · · · · · · · · · · · · · · · · · ·	<u> </u>	100	F0/	<u> </u>			<del></del>	100	F0/	
R179	1-216-809-11		100	5%	1/10W	R256	1-216-809-11	METAL CHIP	100	5%	1/10W
R180	1-216-809-11		100	5%	1/10W						
R181	1-216-801-11		22	5%	1/10W	R259	1-216-833-11		10K	5%	1/10W
R182	1-216-801-11	METAL CHIP	22	5%	1/10W	R260	1-216-834-11	METAL CHIP	12K	5%	1/10W
						R261	1-216-833-11	METAL CHIP	10K	5%	1/10W
R183	1-216-809-11	METAL CHIP	100	5%	1/10W	R262	1-216-815-11	METAL CHIP	330	5%	1/10W
R184	1-216-864-11	SHORT CHIP	0			R263	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R185	1-216-864-11		0			1.200	. 2.0 00			0 / 0	.,
R187	1-216-809-11		100	5%	1/10W	R264	1-216-845-11	METAL CHID	100K	5%	1/10W
R188	1-216-809-11	METAL CHIP	100	5%	1/10W	R265	1-216-838-11		27K	5%	1/10W
						R269	1-216-833-11		10K	5%	1/10W
R189	1-216-809-11	METAL CHIP	100	5%	1/10W	R273	1-216-864-11	SHORT CHIP	0		
R190	1-216-809-11	METAL CHIP	100	5%	1/10W	R274	1-216-833-11	METAL CHIP	10K	5%	1/10W
R191	1-216-805-11	METAL CHIP	47	5%	1/10W						
R192	1-216-864-11		0			R281	1-216-864-11	SHORT CHIP	0		
R193	1-216-809-11		100	5%	1/10W	R282	1-216-864-11		0		
nigo	1-210-009-11	WE TAL CHIP	100	J /0	1/1000						
			_			R301	1-216-295-00		0		
R194	1-216-864-11		0			R302	1-216-295-00		0		
R195	1-216-809-11	METAL CHIP	100	5%	1/10W	R310	1-216-821-11	METAL CHIP	1K	5%	1/10W
R196	1-216-809-11	METAL CHIP	100	5%	1/10W						
R197	1-216-809-11	METAL CHIP	100	5%	1/10W	R311	1-216-809-11	METAL CHIP	100	5%	1/10W
R198	1-216-809-11		100	5%	1/10W	R312	1-218-831-11		220	0.5%	1/10W
11100	1 210 000 11	WEINE OIII	100	0 70	17 1011	R313	1-216-817-11		470	5%	1/10W
D400	1 010 000 11	METAL OLUD	100	F0/	4 /4 OM						
R199	1-216-809-11		100	5%	1/10W	R314	1-216-817-11		470	5%	1/10W
R206	1-216-829-11	-	4.7K	5%	1/10W	R315	1-216-817-11	METAL CHIP	470	5%	1/10W
R210	1-216-815-11	METAL CHIP	330	5%	1/10W						
R211	1-216-809-11	METAL CHIP	100	5%	1/10W	R316	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R212	1-216-809-11	METAL CHIP	100	5%	1/10W	R317	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R318	1-216-817-11		470	5%	1/10W
R218	1-216-846-11	METAL CHID	120K	5%	1/10W	R319	1-218-871-11		10K	0.5%	1/10W
R219	1-216-846-11		120K	5%	1/10W	R320	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R220	1-216-847-11		150K	5%	1/10W						
R221	1-216-847-11	METAL CHIP	150K	5%	1/10W	R321	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R222	1-216-842-11	METAL CHIP	56K	5%	1/10W	R322	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
						R323	1-218-855-11	METAL CHIP	2.2K	0.5%	1/10W
R223	1-216-842-11	METAL CHIP	56K	5%	1/10W	R324	1-216-833-11		10K	5%	1/10W
R224	1-216-850-11		270K	5%	1/10W	R325	1-218-867-11		6.8K	5%	1/10W
						nozo	1-210-007-11	WEIAL UNIF	0.01	J /0	1/1000
R225	1-216-833-11		10K	5%	1/10W						
R226	1-216-853-11		470K	5%	1/10W	R326	1-216-833-11		10K	5%	1/10W
R227	1-216-846-11	METAL CHIP	120K	5%	1/10W	R327	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
						R328	1-216-838-11	METAL CHIP	27K	5%	1/10W
R229	1-216-833-11	METAL CHIP	10K	5%	1/10W	R329	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R230	1-216-839-11	-	33K	5%	1/10W	R330	1-216-825-11		2.2K	5%	1/10W
R231	1-216-855-11		680K	5%	1/10W	1.000	. 2.0 020			• 70	.,
						D001	1 010 005 11	METAL CLUD	0.01/	E0/	1/101//
R232	1-216-839-11		33K	5%	1/10W	R331	1-216-825-11		2.2K	5%	1/10W
R233	1-216-853-11	METAL CHIP	470K	5%	1/10W	R332	1-216-825-11		2.2K	5%	1/10W
						R333	1-216-847-11		150K	5%	1/10W
R234	1-211-981-11	METAL CHIP	33	0.5%	1/10W	R334	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R235	1-216-809-11	METAL CHIP	100	5%	1/10W	R335	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R236	1-211-981-11	METAL CHIP	33	0.5%	1/10W						
R238	1-216-839-11		33K	5%	1/10W	R336	1-216-833-11	METAL CHIP	10K	5%	1/10W
R239	1-216-839-11	-	33K	5%	1/10W	R337	1-216-833-11		10K	5%	1/10W
11239	1-210-039-11	WIL TAL OTTE	JUK	J /0	1/1000						
						R338	1-216-801-11		22	5%	1/10W
R240	1-216-839-11		33K	5%	1/10W	R349	1-216-833-11		10K	5%	1/10W
R241	1-216-839-11		33K	5%	1/10W	R351	1-216-295-00	SHORT CHIP	0		
R242	1-216-849-11	METAL CHIP	220K	5%	1/10W						
R243	1-216-853-11		470K	5%	1/10W	R352	1-216-295-00	SHORT CHIP	0		
R244	1-216-821-11		1K	5%	1/10W	R358	1-216-833-11		10K	5%	1/10W
17	. 2.0 021 11	OIIII		J /0	.,	R359	1-216-833-11		10K	5%	1/10W
D045	1 010 041 11	METAL OLUB	171/	E0/	4/4014						
R245	1-216-841-11		47K	5%	1/10W	R360	1-216-809-11		100	5%	1/10W
R246	1-216-809-11		100	5%	1/10W	R366	1-216-801-11	METAL CHIP	22	5%	1/10W
R248	1-216-803-11		33	5%	1/10W						
R249	1-216-803-11	METAL CHIP	33	5%	1/10W	R402	1-216-295-00	SHORT CHIP	0		
R250	1-218-895-11		100K	0.5%	1/10W	R407	1-216-809-11		100	5%	1/10W
		÷				R414	1-216-833-11		10K	5%	1/10W
R251	1-216-841-11	METAL CHID	47K	5%	1/10W	R416	1-218-867-11		6.8K	5%	1/10W
R253	1-218-889-11		56K	0.5%	1/10W	R418	1-216-822-11	IVIE IAL UMIP	1.2K	5%	1/10W
R254	1-218-895-11		100K	0.5%	1/10W					_	
R255	1-218-889-11	METAL CHIP	56K	0.5%	1/10W	R419	1-216-797-11	METAL CHIP	10	5%	1/10W

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Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R426	1-216-833-11	·	10K	5%	1/10W	R701	1-216-833-11	METAL CHID	10K	5%	1/10W
R420	1-216-833-11		10K 10K	5% 5%	1/10W 1/10W	N/U1	1-210-033-11	WETAL CHIP	IUK	370	1/1000
R434	1-216-797-11		100	5% 5%	1/10W	R702	1-216-833-11	METAL CHID	10K	5%	1/10W
R506	1-216-864-11		0	J /0	1/1000	R705	1-216-809-11		100	5%	1/10W
11300	1-210-004-11	SHORT OTH	U			R706	1-216-864-11		0	J /0	1/1000
R509	1-216-864-11	SHORT CHIP	0			R712	1-216-833-11		10K	5%	1/10W
R511	1-216-864-11		0			R713	1-216-295-00		0	0 / 0	1/ 1000
R520	1-216-809-11		100	5%	1/10W	11710	1 210 200 00	OHOITI OIIII	Ü		
R524	1-216-864-11		0	0 / 0	1, 1011	R716	1-216-833-11	METAL CHIP	10K	5%	1/10W
R525	1-216-833-11		10K	5%	1/10W	R717	1-216-833-11		10K	5%	1/10W
				0,70	.,	R719	1-216-833-11		10K	5%	1/10W
R527	1-216-833-11	METAL CHIP	10K	5%	1/10W	R720	1-216-833-11		10K	5%	1/10W
R528	1-216-864-11		0			R722	1-216-833-11		10K	5%	1/10W
R530	1-216-833-11		10K	5%	1/10W						
R531	1-216-833-11		10K	5%	1/10W	R728	1-216-809-11	METAL CHIP	100	5%	1/10W
R532	1-216-833-11	METAL CHIP	10K	5%	1/10W	R729	1-216-809-11	METAL CHIP	100	5%	1/10W
						R730	1-216-809-11		100	5%	1/10W
R536	1-216-864-11	SHORT CHIP	0			R735	1-216-809-11	METAL CHIP	100	5%	1/10W
R539	1-216-864-11	SHORT CHIP	0			R738	1-216-833-11	METAL CHIP	10K	5%	1/10W
R541	1-216-864-11	SHORT CHIP	0								
R544	1-216-864-11	SHORT CHIP	0			R791	1-216-809-11	METAL CHIP	100	5%	1/10W
R546	1-216-864-11	SHORT CHIP	0			R814	1-216-809-11	METAL CHIP	100	5%	1/10W
						R817	1-216-864-11	SHORT CHIP	0		
R547	1-216-833-11	METAL CHIP	10K	5%	1/10W	R902	1-216-864-11		0		
R549	1-216-864-11	SHORT CHIP	0			R907	1-216-864-11	SHORT CHIP	0		
R551	1-216-864-11		0								
R552	1-216-864-11	SHORT CHIP	0			R909	1-216-834-11	METAL CHIP	12K	5%	1/10W
R556	1-216-864-11	SHORT CHIP	0			R910	1-218-867-11		6.8K	5%	1/10W
						R913	1-216-803-11		33	5%	1/10W
R557	1-216-864-11		0			R915	1-216-821-11		1K	5%	1/10W
R566	1-216-864-11		0			R916	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R588	1-216-864-11		0						_		
R589	1-216-864-11		0			R917	1-216-864-11		0		
R590	1-216-797-11	METAL CHIP	10	5%	1/10W	R919	1-216-809-11		100	5%	1/10W
D.F.0.0	1 010 001 11	OLIODE OLUD	•			R921	1-216-833-11		10K	5%	1/10W
R592	1-216-864-11		0			R922	1-216-833-11		10K	5%	1/10W
R593	1-216-864-11		0			R931	1-216-833-11	METAL CHIP	10K	5%	1/10W
R601	1-216-864-11		0	F0/	4/40/4/	DOCE	1 010 000 11	METAL OLUD	100	F0/	4 /4 OM
R603	1-216-809-11		100	5%	1/10W	R955	1-216-809-11		100	5% 5%	1/10W
R605	1-216-833-11	WETAL CHIP	10K	5%	1/10W	R956 R957	1-216-809-11 1-216-809-11		100 100	5% 5%	1/10W 1/10W
R614	1-216-864-11	спорт спір	0			R958	1-216-809-11		100	5% 5%	1/10W
R615	1-218-285-11		75	5%	1/10W	R959	1-216-809-11		100	5%	1/10W
R617	1-218-292-11		20K	5%	1/10W	11333	1-210-003-11	WILTAL OTTI	100	J /0	1/1000
R618	1-216-864-11		0	J /0	1/1000	R960	1-216-809-11	METAL CHIP	100	5%	1/10W
R620	1-216-864-11		0			R961	1-216-809-11		100	5%	1/10W
11020	1 210 001 11	0110111 01111	Ū			R962	1-216-809-11		100	5%	1/10W
R639	1-216-864-11	SHORT CHIP	0			R963	1-216-809-11		100	5%	1/10W
R640	1-216-789-11		2.2	5%	1/10W	R964	1-216-809-11		100	5%	1/10W
R663	1-216-864-11		0	0,70	.,		. 2.0 000			0,70	.,
R664	1-216-864-11		0					< COMPOSITION	I CIRCUIT	BLOCK >	
R665	1-216-864-11		0								
						RB102	1-233-270-11	NETWORK, RES	(8 GANG)	10K	
R674	1-216-819-11	METAL CHIP	680	5%	1/10W	RB103		RES, CHIP NETV			
R675	1-216-826-11		2.7K	5%	1/10W	RB104	1-233-576-11	RES, CHIP NETV	VORK 100		
R676	1-216-826-11	METAL CHIP	2.7K	5%	1/10W	RB105		RES, CHIP NETV			
R677	1-216-809-11		100	5%	1/10W	RB106		RES, CHIP NETV			
R678	1-218-834-11	METAL CHIP	300	0.5%	1/10W						
						RB107	1-233-576-11	RES, CHIP NETV	VORK 100		
R679	1-218-834-11	METAL CHIP	300	0.5%	1/10W	RB108	1-233-576-11	RES, CHIP NETV	VORK 100		
R680	1-218-834-11	METAL CHIP	300	0.5%	1/10W	RB109	1-233-576-11	RES, CHIP NETV	VORK 100		
R681	1-218-834-11	METAL CHIP	300	0.5%	1/10W	RB110		RES, CHIP NETV			
R682	1-218-834-11		300	0.5%	1/10W	RB111	1-233-576-11	RES, CHIP NETV	VORK 100		
R683	1-218-834-11	METAL CHIP	300	0.5%	1/10W						
						RB901		RES, CHIP NETV			
R686	1-216-809-11		100	5%	1/10W	RB902	1-236-908-11	RES, CHIP NETV	VORK 10K	(3216)	
R687	1-216-809-11		100	5%	1/10W						
R697	1-216-864-11		0								
R698	1-216-864-11	SHORT CHIP	0			I					

# DVP-CX777ES

MB	PANEL	-L									
Ref. No.	Part No.	Description < VARIABLE RES	ISTOR >		<u>Remark</u>	Ref. No. D1015	Part No. 8-719-046-39	Description LED SEL5821A-	-TP15 (VIDE	EO OFF)	<u>Remark</u>
RV101 RV601 RV602	1-223-583-41	RES, ADJ, CARB RES, ADJ, CARB RES, ADJ, CARB	ON 22K ON (3 TYPE			D1081 D1082 D1083 D1084	8-719-041-97 8-719-041-97 8-719-041-97	DIODE MA113-( DIODE MA113-( DIODE MA113-( DIODE MA113-(	(TX) (TX) (TX)	,	
		< VIBRATOR >				D1085		DIODE UDZSTE			
X101 X102		VIBRATOR, CERA				D1086	8-719-069-56	DIODE UDZSTE < SHORT >	-176.28		
******		******	,	,	*****	FB1001	1-216-295-00	SHORT CHIP	0		
	A-4733-701-A	PANEL-L BOARD						< FLUORESCENT	INDICATOR	R TUBE >	,
	4-246-508-01 4-949-935-41	HOLDER (FL) CUSHION (FL)				FL1001	1-518-904-11	INDICATOR TUBE	E, FLUORES	CENT	
		< CAPACITOR >						< IC >			
C1002	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC1003 IC1004		IC uPD70F3259 IC NJL74H400A		BT-A	
C1003	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V			(F	REMOTE CO	NTROL I	RECEIVER)
C1004 C1005		CERAMIC CHIP CERAMIC CHIP	0.001uF 0.01uF	10% 10%	50V 25V	IC1005 IC1006		IC NJM2406F IC S-80827CNU	IA-B8PT2G		
C1009	1-115-156-11	CERAMIC CHIP	1uF		10V			IC MSM9201-04			
C1011		CERAMIC CHIP	0.01uF	10%	25V	IC1008		IC PST9127NL			
C1014 C1015		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.01uF	10% 10%	25V 25V	IC1009	8-759-350-42	IC PST9127NL			
C1015		CERAMIC CHIP	0.01uF 0.01uF	10%	25V 25V			< COIL >			
C1017	1-124-589-11	ELECT	47uF	20%	16V	L1081	1-400-096-21	INDUCTOR	47uH		
C1019		CERAMIC CHIP	100PF	5%	50V	L1082	1-400-096-21		47uH		
C1031 C1032	1-164-156-11	CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF		25V 25V			< TRANSISTOR >	>		
C1033 C1034		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF		25V 25V	Q1001	8-729-900-53	TRANSISTOR	DTC114E	<b>(</b>	
01001	1 101 100 11	OLITA WITO OTTE	0.141		201	Q1002	8-729-900-53		DTC114E		
C1035		CERAMIC CHIP CERAMIC CHIP	0.1uF 39PF	5%	25V 50V	Q1005	8-729-424-02 8-729-027-38		2SB709A- DTC114E		
C1030	1-102-922-11		47uF	20%	16V		8-729-900-53		DTC114EF		
C1042	1-164-156-11	CERAMIC CHIP	0.1uF		25V					_	
C1052	1-124-589-11	ELECT	47uF	20%	16V	Q1012 Q1013	8-729-900-53 8-729-900-53		DTC114E		
C1081	1-128-131-11	ELECT	22uF	20%	50V	Q1014	8-729-900-53		DTC114E		
C1082	1-137-150-11		0.01uF	5%	100V	Q1015	8-729-900-53		DTC114E		
C1083 C1085	1-115-339-11	CERAMIC CHIP	0.1uF 22uF	10% 20%	50V 50V	Q1016	8-729-900-53	TRANSISTOR	DTC114E	(	
C1086	1-128-131-11		22uF	20%	50V	Q1017	8-729-900-53	TRANSISTOR	DTC114E	<	
01007	4 445 000 44	OEDAMIO OLUD	0.45	400/	F0)/	Q1071	8-729-120-28		2SC1623-		
C1087 C1088		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF	10% 10%	50V 50V	Q1081 Q1082	8-729-808-01 8-729-808-01	TRANSISTOR TRANSISTOR	2SD1622- 2SD1622-		
C1089		CERAMIC CHIP	0.1uF	10%	50V	Q1083	8-729-804-41		2SB1122-		
		< CONNECTOR >						< RESISTOR/CAF	PACITOR >		
		PIN, CONNECTOR			Р		1-216-841-11		47K	5%	1/10W
		PIN, CONNECTOR HOUSING, CONN			) 8P	R1002 R1003	1-216-295-00 1-216-837-11		0 22K	5%	1/10W
		CONNECTOR, FF		, 50, 1115	, 0.	R1004	1-216-837-11		22K	5%	1/10W
		< DIODE >				R1005	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< DIODE >				R1006	1-216-821-11	METAL CHIP	1K	5%	1/10W
D1002		DIODE RB705D		00000	) (I) (E)	R1007	1-216-827-11		3.3K	5%	1/10W
D1011 D1012		LED SELU5E230 LED CL-191WA			SIVE)	R1009 R1010	1-216-845-11 1-216-825-11		100K 2.2K	5% 5%	1/10W 1/10W
D1013	6-500-329-01	LED SELU5E230	C-PTP15 (N	ÚULTI CH	IANNEL)	R1011	1-216-295-00		0	J /0	1/1000
D1014	ŏ-719-046-39	LED SEL5821A-	1115 (FL 0	rr)		R1012	1-216-295-00	SHORT CHIP	0		

								PANE	L-L	PAN	IEL-R
Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>
R1013	1-216-295-00	SHORT CHIP	0			R1084	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1014	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R1015	1-216-809-11	METAL CHIP	100	5%	1/10W	R1085	1-216-801-11		22	5%	1/10W
R1016	1-216-809-11	METAL CHIP	100	5%	1/10W	R1086	1-216-801-11		22	5%	1/10W
			_			R1087	1-216-801-11		22	5%	1/10W
R1017	1-216-295-00		0	F0/	4 (4 0) 14	R1088	1-216-801-11		22	5%	1/10W
R1018	1-216-809-11	METAL CHIP	100	5%	1/10W	R1089	1-216-801-11	METAL CHIP	22	5%	1/10W
R1019 R1020	1-216-809-11 1-216-833-11	METAL CHIP METAL CHIP	100 10K	5% 5%	1/10W 1/10W	R1090	1-216-801-11	METAL CHID	22	5%	1/10W
R1020	1-216-805-11		47	5%	1/10W	R1090	1-216-801-11		22	5%	1/10W
111021	1-210-003-11	WILIAL OITH	71	J /0	1/1000	R1092	1-216-801-11		22	5%	1/10W
R1022	1-216-295-00	SHORT CHIP	0			R1093	1-216-801-11		22	5%	1/10W
R1023	1-216-833-11		10K	5%	1/10W	R1094	1-216-801-11		22	5%	1/10W
R1024	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R1025	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1095	1-216-801-11	METAL CHIP	22	5%	1/10W
R1026	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1096	1-216-801-11	METAL CHIP	22	5%	1/10W
						R1097	1-216-801-11	METAL CHIP	22	5%	1/10W
R1028	1-216-801-11	METAL CHIP	22	5%	1/10W	R1098	1-216-801-11		22	5%	1/10W
R1029	1-216-801-11	METAL CHIP	22	5%	1/10W	R1099	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R1031	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R1032	1-216-833-11		10K	5%	1/10W			< SWITCH >			
R1035	1-216-833-11	METAL CHIP	10K	5%	1/10W	04004	1 771 110 01	CMUTOU TAOTI		٠,	
D1000	1 010 000 11	METAL CLUD	101/	E0/	1/101//	S1001		SWITCH, TACTI			
R1036 R1037	1-216-833-11 1-216-833-11	METAL CHIP METAL CHIP	10K 10K	5% 5%	1/10W 1/10W	S1002 S1003		SWITCH, TACTI SWITCH, TACTI			1.)
R1037	1-216-833-11	METAL CHIP	10K 10K	5% 5%	1/10W 1/10W	S1003 S1004		SWITCH, TACTI			L)
R1039	1-216-833-11		10K	5%	1/10W	S1004 S1005		SWITCH, TACTI			
R1040	1-216-833-11		10K	5%	1/10W	01000	1 771 410 21	OWITOII, IAOTI	LL (VIDLO	011)	
111010	1 210 000 11	WEINE OIM	1011	0 70	17 1011	S1006	1-771-410-21	SWITCH, TACTI	LE (FOLDE	(R)	
R1041	1-115-156-11	CERAMIC CHIP	1uF		10V	S1007		SWITCH, TACTI			
R1043	1-216-295-00	SHORT CHIP	0			S1008		SWITCH, TACTI		,	
R1044	1-216-810-11	METAL CHIP	120	5%	1/10W	S1009		SWITCH, TACTI			
R1045	1-216-803-11		33	5%	1/10W						
R1046	1-216-829-11	METAL CHIP	4.7K	5%	1/10W			< TRANSFORMI	ER >		
D1047	1-216-829-11	METAL CLUD	4 71/	E0/	4/40\\	T1001	1 407 007 11	TDANCEODMED			.D
R1047 R1050	1-216-829-11	-	4.7K 0	5%	1/10W	T1081	1-437-887-11	TRANSFORMER	1, 10-10 0	UNVERTE	:K
R1050	1-216-821-11	METAL CHIP	1K	5%	1/10W			< VIBRATOR >			
R1052	1-216-825-11		2.2K	5%	1/10W			< VIDITATION >			
R1053	1-216-825-11		2.2K	5%	1/10W	X1001	1-795-058-21	VIBRATOR, CEF	RAMIC (5M	Hz)	
	. 2.0 020			0,0	.,			******			******
R1054	1-216-829-11	METAL CHIP	4.7K	5%	1/10W						
R1055	1-216-833-11	METAL CHIP	10K	5%	1/10W		A-4733-713-A	PANEL-R BOAR	D, COMPL	ETE	
R1056	1-216-837-11	METAL CHIP	22K	5%	1/10W			*******	******	***	
R1057	1-216-825-11		2.2K	5%	1/10W						
R1058	1-216-833-11	METAL CHIP	10K	5%	1/10W			< LED >			
D4000	1 010 005 00	CHODE OHID	0			D1101	0.710.040.00	LED OFLEGOA	. TD4E (DI	00 011441	OE)
R1060 R1061	1-216-295-00 1-216-809-11	METAL CHIP	0 100	5%	1/10W	D1101 D1102		LED SEL5821/ LED SEL55210			
R1062	1-216-818-11	METAL CHIP	560	5 % 5%	1/10W	01102	0-719-040-41	LED SELSSZIC	ים) פו זו-י-	IEUI SEF	моп)
R1063	1-216-809-11		100	5%	1/10W			< SWITCH >			
R1064	1-216-811-11		150	5%	1/10W			< OWITOIT >			
						JG1101	1-786-546-11	SWITCH, TACTI	LE (PUSH	ENTER)	
R1065	1-216-811-11	METAL CHIP	150	5%	1/10W						
R1067	1-216-827-11		3.3K	5%	1/10W			< RESISTOR >			
R1069	1-216-295-00		0								
R1071	1-216-809-11		100	5%	1/10W	R1101	1-216-825-11		2.2K	5%	1/10W
R1073	1-216-841-11	METAL CHIP	47K	5%	1/10W	R1102	1-216-829-11		4.7K	5%	1/10W
D4074	1 010 000 11	METAL OLUB	100	F0/	4/40144	R1103	1-216-821-11		1K	5%	1/10W
R1074	1-216-809-11		100 47k	5% 5%	1/10W	R1104	1-216-825-11		2.2K	5%	1/10W
R1076 R1077	1-216-841-11 1-216-809-11	METAL CHIP METAL CHIP	47K 100	5% 5%	1/10W 1/10W	R1105	1-216-825-11	WIE IAL UHIP	2.2K	5%	1/10W
R1077	1-216-809-11		22	5% 5%	1/10W 1/10W	R1106	1-216-829-11	METAI CHID	4.7K	5%	1/10W
R1076	1-216-801-11		22	5% 5%	1/10W 1/10W	R1100	1-216-833-11		4.7K 10K	5% 5%	1/10W
	. 2.0 001 11	CITTLE OTTI		3 /0	1, 1011	R1108	1-216-837-11		22K	5%	1/10W
R1080	1-216-845-11	METAL CHIP	100K	5%	1/10W	R1109	1-216-841-11		47K	5%	1/10W
R1081	1-218-867-11		6.8K	5%	1/10W	R1110	1-216-821-11		1K	5%	1/10W
R1082	1-218-867-11	METAL CHIP	6.8K	5%	1/10W						
R1083	1-216-828-11	METAL CHIP	3.9K	5%	1/10W	R1111	1-216-825-11	METAL CHIP	2.2K	5%	1/10W

#### PANEL-R **POWER**

Ref. No.	Part No.	<u>Description</u>			<u>Remark</u>	Ref. No.	Part No.	<u>Descript</u>	<u>ion</u>			<u>Remark</u>
R1112	1-216-825-11	METAL CHIP	2.2K	5%	1/10W			< DIODE	>			
	1-216-829-11		4.7K	5%	1/10W	, D.101	0.005.000.70	DIODE	4114005			
R1114 R1115	1-216-833-11 1-216-837-11		10K 22K	5% 5%	1/10W 1/10W	<b>⚠</b> D101 <b>⚠</b> D102	9-885-020-72 9-885-020-72					
מוווט	1-210-037-11	WEIAL UNIF	ZZN	J /0	1/1000	△ D102	9-885-020-72	_				
R1116	1-216-811-11	METAL CHIP	150	5%	1/10W	△D104	9-885-020-72					
	1-216-811-11		150	5%	1/10W	<b>△</b> D106	8-719-081-77	DIODE	SARS01			
R1118	1-216-827-11	METAL CHIP	3.3K	5%	1/10W	A D107	8-719-063-70	DIODE	D4ML00	ш		
		< ROTARY ENCO	DFR >			⚠ D107 ⚠ D108	8-719-921-63					
		(1101)1111 21100	DEITY			D211	9-885-036-10	_				
RE1101	1-475-543-11	ENCODER, ROTA				D213	8-719-901-33					
			(DIASC	AMS, PU	SH ENTER)	D301	8-719-510-73	DIODE	S3L20U			
		< SWITCH >				D302	9-885-020-72	DIODE	1N4005	_		
		(011110117				D303	9-885-020-72					
S1101		SWITCH, TACTIL				D304	9-885-020-72			_		
S1102		SWITCH, TACTIL	`	C EJECT)		D305	8-719-510-73					
S1103 S1104		SWITCH, TACTIL SWITCH, TACTIL		=MII)		D308	8-719-901-33	DIODE	155133			
S1104 S1105		SWITCH, TACTIL				D501	9-885-036-10	DIODE	D2L20U			
			•	,		D502	8-719-063-70	DIODE	D1NL20	U		
S1106		SWITCH, TACTIL	,									
S1107		SWITCH, TACTIL	` '					< FUSE :	>			
S1108 S1109		SWITCH, TACTIL SWITCH, TACTIL		TURN)		<b> ▲F101</b>	9-885-020-67	FUSF (2	A/125V)			
S1110		SWITCH, TACTIL		,			0 000 020 0.	. 002 (2				
								< TERM	INAL EAF	RTH >		
S1111		SWITCH, TACTIL			`	* 50004	1 507 700 01	TEDMIN	AL EAD:	F1.1		
S1112 ******		SWITCH, TACTIL ********	`		,	* FG001 * FG002	1-537-738-21 1-537-738-21					
						* FG003	1-537-738-21					
	1-477-957-11	POWER BLOCK (	Including	POWER B	OARD)	* FG004	1-537-738-21					
		******						< IC >				
		< CAPACITOR >						(10)				
. 0.10.1	4 405 500 44	EU 14	0.4.5	100/	075)/	<b>△</b> IC101	9-885-036-08					
<b>⚠</b> C101 <b>⚠</b> C102	1-165-528-11 1-165-528-11		0.1uF 0.1uF	10% 10%	275V 275V	IC301 IC302	8-759-420-19 (Not supplied)	IC AN1	431			
△C102	1-113-928-11		100PF	10%	125V	IC401	(Not supplied)					
<b>△</b> C104	1-113-928-11		100PF	10%	125V		(					
<b>△</b> C107	9-885-036-09	ELECT	120uF					< COIL >	>			
<b></b> ∆C110	1-126-964-11	ELECT	10uF	20%	50V	<b></b> ∆L101	9-885-020-69	EILTED	LINE			
△C114	1-126-964-11		47uF	20%	35V	△L101	9-885-020-69					
C212	9-885-036-15		330uF	2070		△L104	9-885-020-70	,				
C301	9-885-036-16		1000uF									
C302	1-126-964-11	ELECT	10uF	20%	50V			< IC LIN	K >			
C303	1-126-960-11	FLECT	1uF	20%	50V	P301	9-885-036-14	LINK IC				
C304	1-126-933-11		100uF	20%	16V	P502	9-885-024-65					
C306	1-126-923-11	ELECT	220uF	20%	10V							
C308	1-126-947-11		47uF	20%	35V			< PHOTO	O COUPL	ER >		
C309	1-126-947-11	ELEUI	47uF	20%	35V	<b>⚠</b> PC101	8-749-924-35	PHOTO	COLIDI EI	3 UN31	71	
C402	1-126-947-11	ELECT	47uF	20%	35V	۵ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱ ۱	0 170 027 00	111010	OUUI LLI	. ONOT		
C502	9-885-020-98		220uF		25V			< TRANS	SISTOR :	•		
C503	1-126-947-11		47uF	20%	35V		0.007.05:-			00:		
C504	9-885-020-98		220uF	200/	25V	Q201	9-885-021-04		CTOD	2SJ525		
C505	1-126-947-11	CLEUI	47uF	20%	35V	Q202 Q301	8-729-901-78 9-885-021-04		SIUK	2SC241 2SJ525		
		< CONNECTOR >				Q302	8-729-901-78		STOR	2SC241		
						Q501	9-885-022-75			2SD186		
* CN101		PIN, CONNECTOR	,	,	0.D	0555	0.700.00= 0:	TD 4410	0.7.0.5	D.T	051/4 = - :	0
* CN102 * CN201		PIN, CONNECTOR PIN, CONNECTOR				Q502	8-729-027-34	TRANSI	STUK	שוA14	3EKA-T14	b
ONZUI	1-00 <del>4</del> -7 10 <b>-</b> 11	I IIV, OUIVINEUTUI	( (OIVIALL	111 L) 13	•			< RESIS	TOR >			
						<b> ⚠</b> R104	1-216-805-11	METAL (	CHIP	47	5%	1/10W
						The	components iden	tified by	Les co	mposant	s identifié	és par une

The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

							POWER RS-232C		SENSOR			
Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Descrip	otion			Remark
R211		METAL CHIP	10K	5%	1/10W	R815	1-216-801-11			22	5%	1/10W
R212	1-216-821-11	-	1K	5%	1/10W	R816	1-216-809-11			100	5%	1/10W
R213	1-216-825-11		2.2K	5%	1/10W	R817	1-216-809-11			100	5%	1/10W
R301	1-216-809-11	METAL CHIP	100	5%	1/10W	R818	1-216-825-11			2.2K	5%	1/10W
R302	1-216-821-11	METAL CUID	1K	5%	1/10W	R819	1-216-821-11	METAL	CHIP	1K	5%	1/10W
R303	1-216-831-11		6.8K	5% 5%	1/10W	R820	1-208-782-11	METAI	CHIP	1K	0.5%	1/10W
R304	1-216-833-11		10K	5%	1/10W	11020	1 200 702 11	WILITA	01111	110	0.070	171000
R306	1-216-833-11		10K	5%	1/10W			< SWIT	CH >			
R308	1-216-833-11	METAL CHIP	10K	5%	1/10W	0004	1 000 000 11	014470			ID 11005)	
R309	1-216-821-11	METAL CHIP	1K	5%	1/10W	\$801 ******	1-692-989-11		,	`	,	*****
to be replac	ced, replace the	ER board except tentire mounted bo	oard.				A-4733-707-A			, COMPLE *****		
								< CAPA	CITOR >			
	A-4733-703-A	RS-232C BOARD	,			C81	1-107-826-11	CERAN	IIC CHIP	0.1uF	10%	16V
		< CAPACITOR >						< CON	NECTOR >			
C801	1-126-206-11	ELECT CHIP	100uF	20%	6.3V	* CN81	1-506-486-11	PIN, CO	ONNECTO	R 7P		
C807		CERAMIC CHIP	0.1uF	10%	16V	CN82	1-506-481-11					
C808		CERAMIC CHIP	0.1uF	10%	16V	CN83	1-506-481-11	PIN, CO	ONNECTO	R 2P		
C809 C810		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF	10% 10%	16V 16V			< PH01	O INTERI	RUPTER >	•	
C811	1-124-779-00	ELECT CHIP	10uF	20%	16V	IC81	8-749-924-18	РНОТО	INTERRU	JPTER R	PI-1391	
C812	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	IC82	8-749-924-18					
C813		CERAMIC CHIP	0.001uF	10%	50V	IC83	8-749-924-18					
C814 C815		CERAMIC CHIP	0.1uF 0.1uF	10% 10%	16V 16V	IC84	8-749-924-18	PHUTU	INTERRU	JPIEK K	PI-1391	
0013	1-107-020-11	< CONNECTOR >		10 /0	100			< RESI	STOR >			
		COUNTEDION				R81	1-216-649-11	METAL	CHIP	820	0.5%	1/10W
CN801		PIN, CONNECTO				R82	1-216-649-11			820	0.5%	1/10W
CNP801	1-815-737-11	CONNECTOR, (D	) SUB 9P (	RS232C)		R83	1-216-649-11			820	0.5%	1/10W
		< DIODE >				R84 R85	1-216-649-11 1-208-778-11			820 680	0.5% 0.5%	1/10W 1/10W
		( DIODE >					*******					
D802	8-719-071-15	DIODE HZM6.83	ZWA1TL					MICOE	LANGOLI	0		
		< FERRITE BEAD							LLANEOU	-		
		VIEIMITE BEAD										
FB801	1-469-784-11		0uH			2	1-827-575-11	,		, ,	,	
FB802	1-469-784-11	FERRITE	0uH			3	1-827-583-11					
		< FILTER >				4 5	1-827-585-11 1-827-584-11					
		(TIETETT)				56	1-827-576-11					
FL801	1-234-177-21	FILTER, CHIP EN	11					,		, ,	,	
		< IC >				<b>1</b> 105 105 105 105 105 105 105 105 105 105	1-783-531-32 A-6061-908-A	,	-	IP KHM-2		
IC804	8-759-441-98	IC MAX3232CS	E			M601	A-4672-895-A	МОТОБ	R (400) AS	SSY (TABL	`	ICE ASSY)
		< JACK >				M602 M603	A-4672-895-A 1-541-632-12	MOTOF	R (400) AS	SSY (LOAI	,	
. 1004	1 704 100 11	1401/ (01411 -	(DE) (DIA	0.5)		, -100			,	,		
* J801	1-/64-188-11	JACK (SMALL T)	, ,	,	TROL S IN)	<b> ∆</b> T102 ********	1-437-496-21 ******				******	******
		< RESISTOR >							SORIES			
R806	1-216-864-11	SHORT CHIP	0					~~~**	·~~~~~			
R808	1-216-864-11		0				1-477-979-11	COMM	ander, s	TANDARE	(RM-DX7	(00)
R809	1-216-864-11		0				1-823-364-21					
R811	1-216-864-11		0				3-073-096-01			•	,	
R814	1-216-864-11	SHOK! CHIP	0				4-249-720-12 4-249-720-22			,	,	
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# **REVISION HISTORY**

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Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2003.08	New
1.1	2004.09	Addition of "NOTE OF REPLACING THE MB BOARD" to SERVIC-ING NOTES (SPM-04038)